FILE NO.

# SERVICE MANUAL

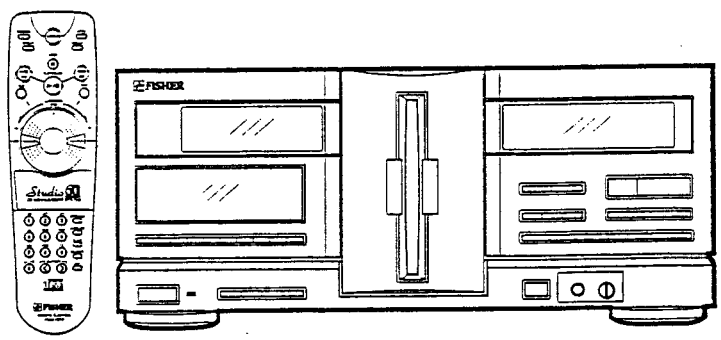
V17714

FISHER

# DAC-6015

(XE)

## Compact Disc Changer



PRODUCT CODE No.
137 072 02

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REFERENCE No. SM580533

## SPECIFICATIONS

| | |
|---|---|
| Type | 60 Disc Bi-Directional, Radial Transport |
| Disc size | 5" |
| Program | 48 selections |
| Channels | 2-channel stereo |
| Sampling frequency | 44.1kHz |
| Digital filter | 8×Oversampling |
| D / A conversion | Dual, 1-Bit |
| Pick-up | Optical 3-beam semiconductor laser |
| Analog filter | Active |
| Frequency response | 20 Hz ~ 20 kHz |
| Total harmonic distortion | 0.03% (1 kHz) |
| Dynamic range | 90 dB |
| Signal-to-noise ratio | 100 dB |
| Wow and Flutter | Below measurable limits |
| Channel separation (1 kHz) | 80 dB |
| Line output signal level | 1.4 V RMS |
| Line output jacks | 2 RCA |
| Headphone output signal level | 140 mV (8 ohm load) |
| Headphone jack | 1/4" stereo |
| Headphone level control | Rotary |
| Optical digital output | -15 dBm ~ -21 dBm |
| Optical output connector | Toslink™ |
| Power requirements | 230 V AC, 50 Hz |
| Power consumption | 21 Watts |
| Dimensions (W×H×D) | Approx. 420×184×446 mm |
| Weight | Approx. 8 kg |

**RDAC-6015 WIRELESS REMOTE CONTROL**

| | |
|---|---|
| Power requirements | 3VDC - Two "AA" batteries |
| Dimensions (W×H×D) | Approx. 66×227×35 mm |
| Weight | Approx. 100 g (without batteries) |

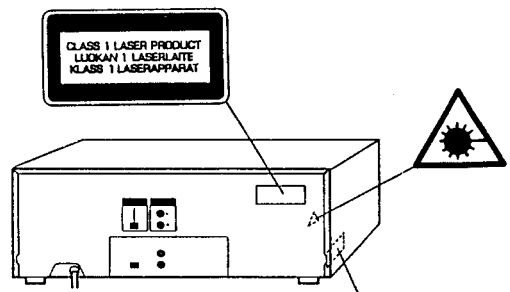
Specifications subject to change without notice.

## LASER BEAM SAFETY PRECAUTIONS

- Pick-up that emits a laser beam is used in this CD player.

CAUTION :
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE

LASER OUTPUT ..... 0.6 mW Max. (CW)
WAVELENGTH ..... 790 nm

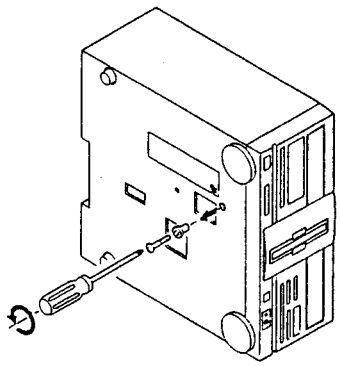



| |
|---|
| CAUTION – INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM. |
| ADVARSEL – USYNLIG LASER STRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION, UNDGÅ UDS ÆTTELSE FOR STRÅLING. |
| VARNING – OSYNLIG LASER STRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRÅLEN ÄR FARLIG. |
| VORSICHT – UNSICHTBARE LASERSTRAHLUNG TRITT AUS, WENN DECKEL GEÖFFNET UND WENN SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT IST. NICHT, DEM STRAHL AUSSETZEN. |
| VARO – AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN. |

## BEFORE USE OR TRANSPORTATION

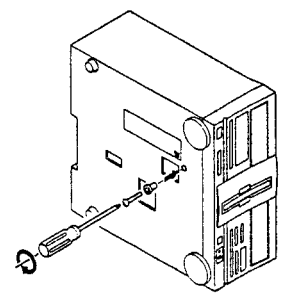
### Before use

Remove the shipping screw and the brass sleeve from the bottom of the DAC-6015 before use. Please refer to the illustration. (These parts are used to secure the CD mechanism during shipment and should be retained for future use.)



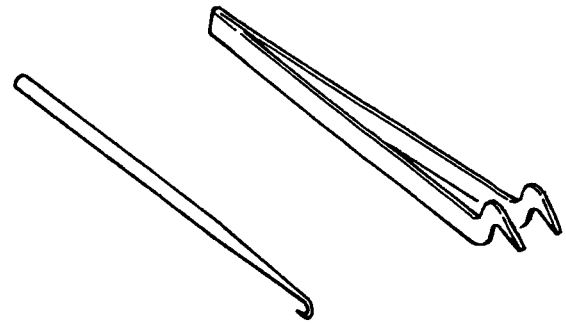
### Before transportation

1. Turn on the power and remove all discs from the DAC-6015.
2. Check that "NO DISC" appears on the CD display.
3. Turn off the power and disconnect the power cord.
4. Reinstall the shipping screw and brass sleeve as shown in the illustration.



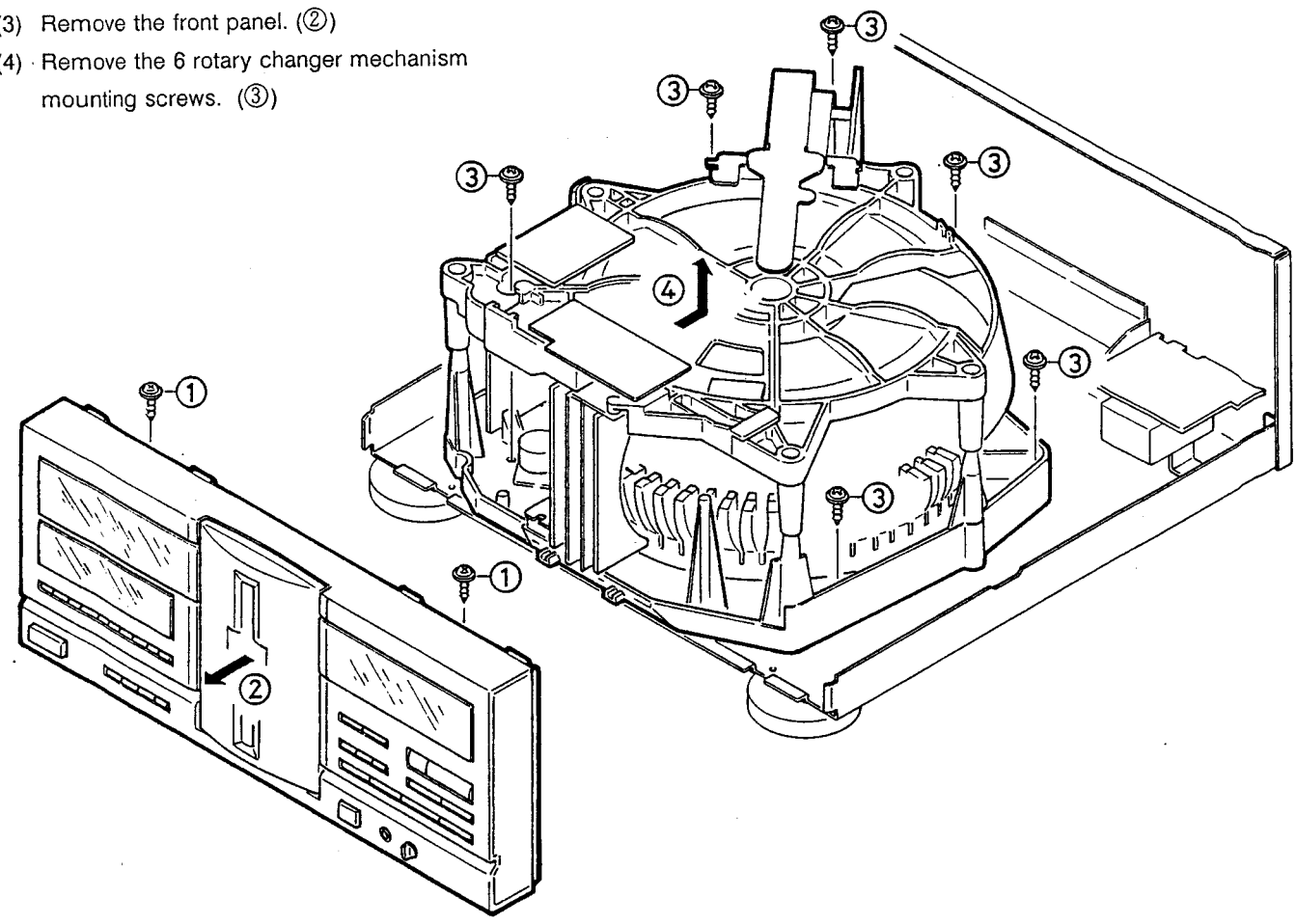
## REMOVAL AND INSTALLATION

- Disconnect the power cord's plug from the electrical outlet.
- All wiring should be returned to the original position after work is completed.
- First have ready many the new FIXERS (614 129 2496) for replacement.
- Arrange the lead wires so that they are not near the heat sink.
- This unit must be operated in a horizontal position.
- **When carrying the unit, be sure to remove any discs which may be inside and turn the power off.**
  **Then unplug the power cord from the AC outlet after 10 seconds.**
  **Carrying the unit with any discs inside may damage the discs and / or the unit.**
- Before beginning the following procedure, prepare a spring hook or tweezers of the type shown at right.



### a. FRONT PANEL

(1) Remove the 6 top cabinet mounting screws.
(2) Remove the 2 front panel mounting screws. (①)
(3) Remove the front panel. (②)
(4) Remove the 6 rotary changer mechanism mounting screws. (③)

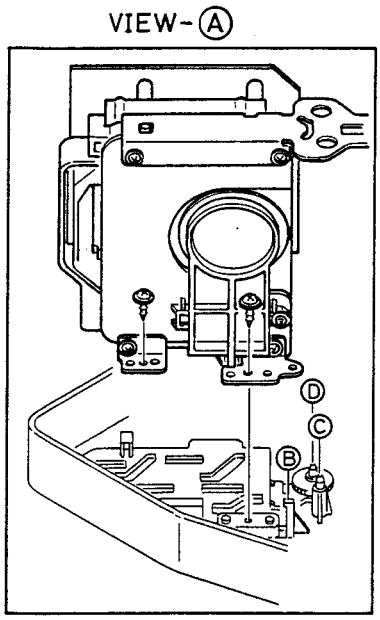


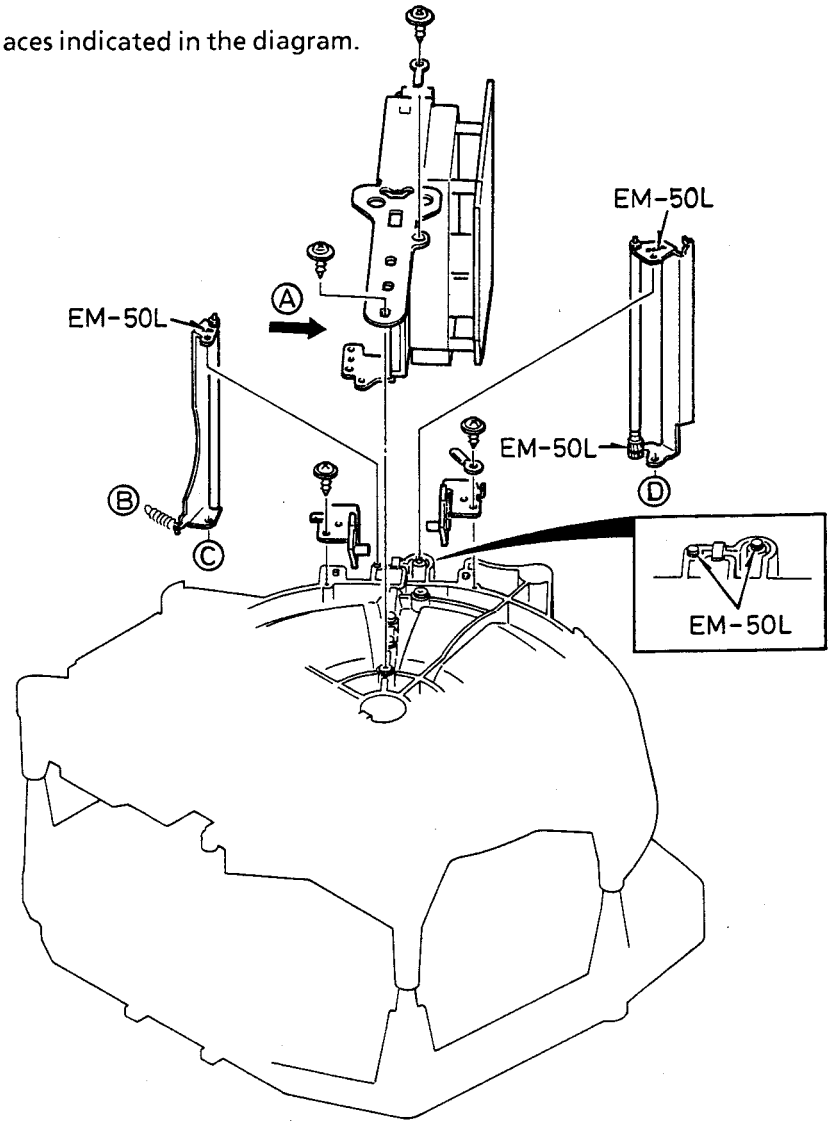
## REMOVAL AND INSTALLATION

### b. 60-DISC TABLE ( TURNTABLE )

- Apply MC-grease "EM-50L" to the places indicated in the diagram.

### c. CD MECHANISM

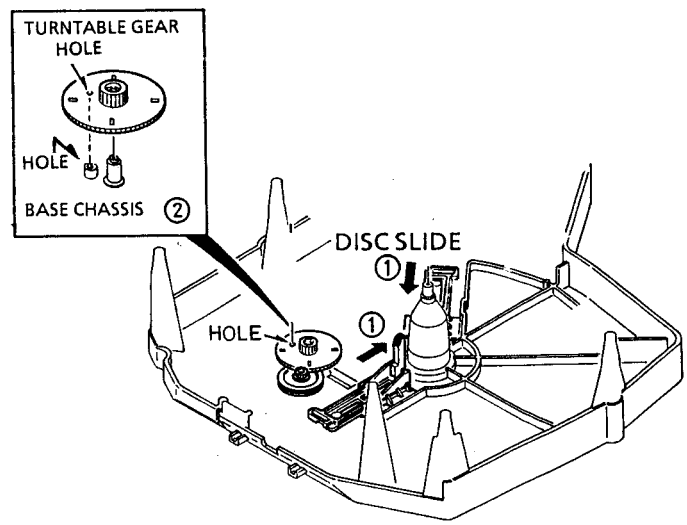



### d. INSTALLATION OF TURNTABLE

(1) Move the disc slide to the position indicated by the arrow. (①)

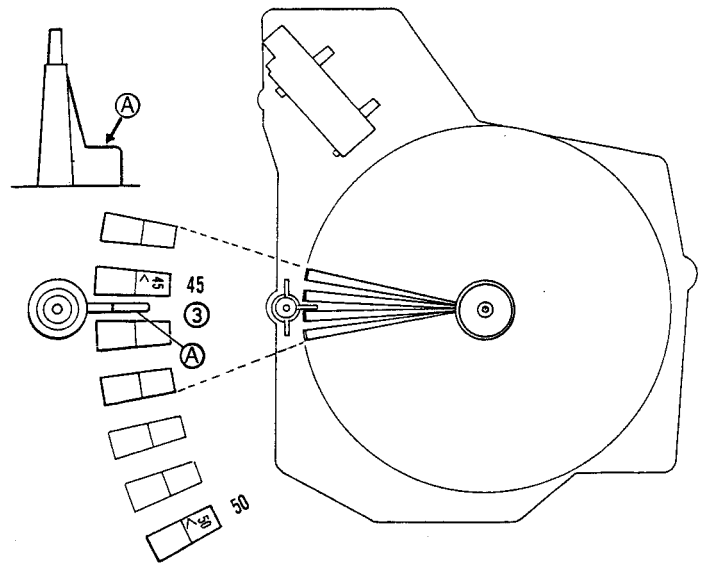
(2) Align the hole in the base chassis with the hole in the turntable gear. (②)

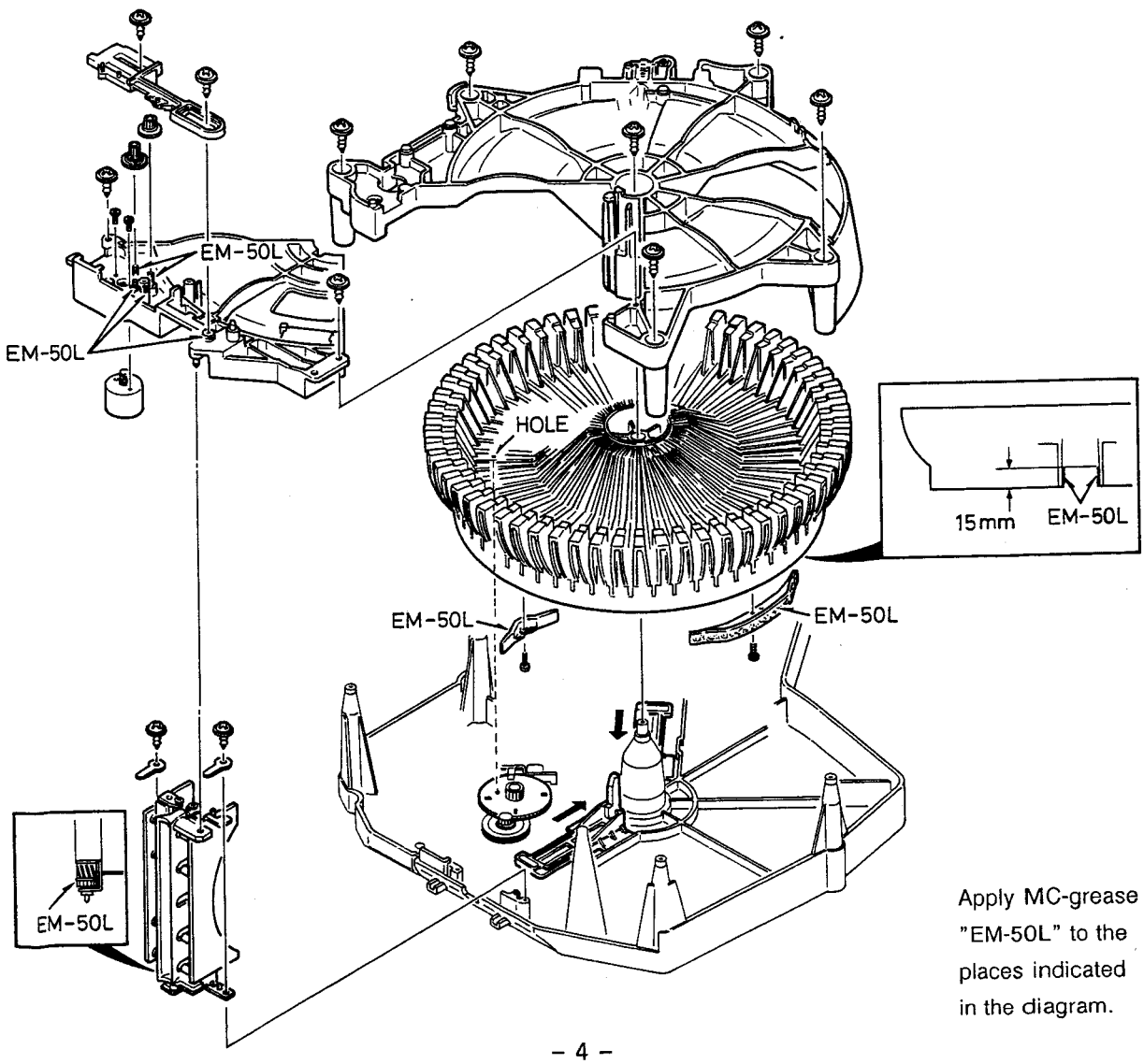


## REMOVAL AND INSTALLATION

(3) Align the turntable so that rib ( Ⓐ ) of the base chassis is visible between disc indicators **45** and **46** on the turntable. (③)

(4) Then insert the turntable.

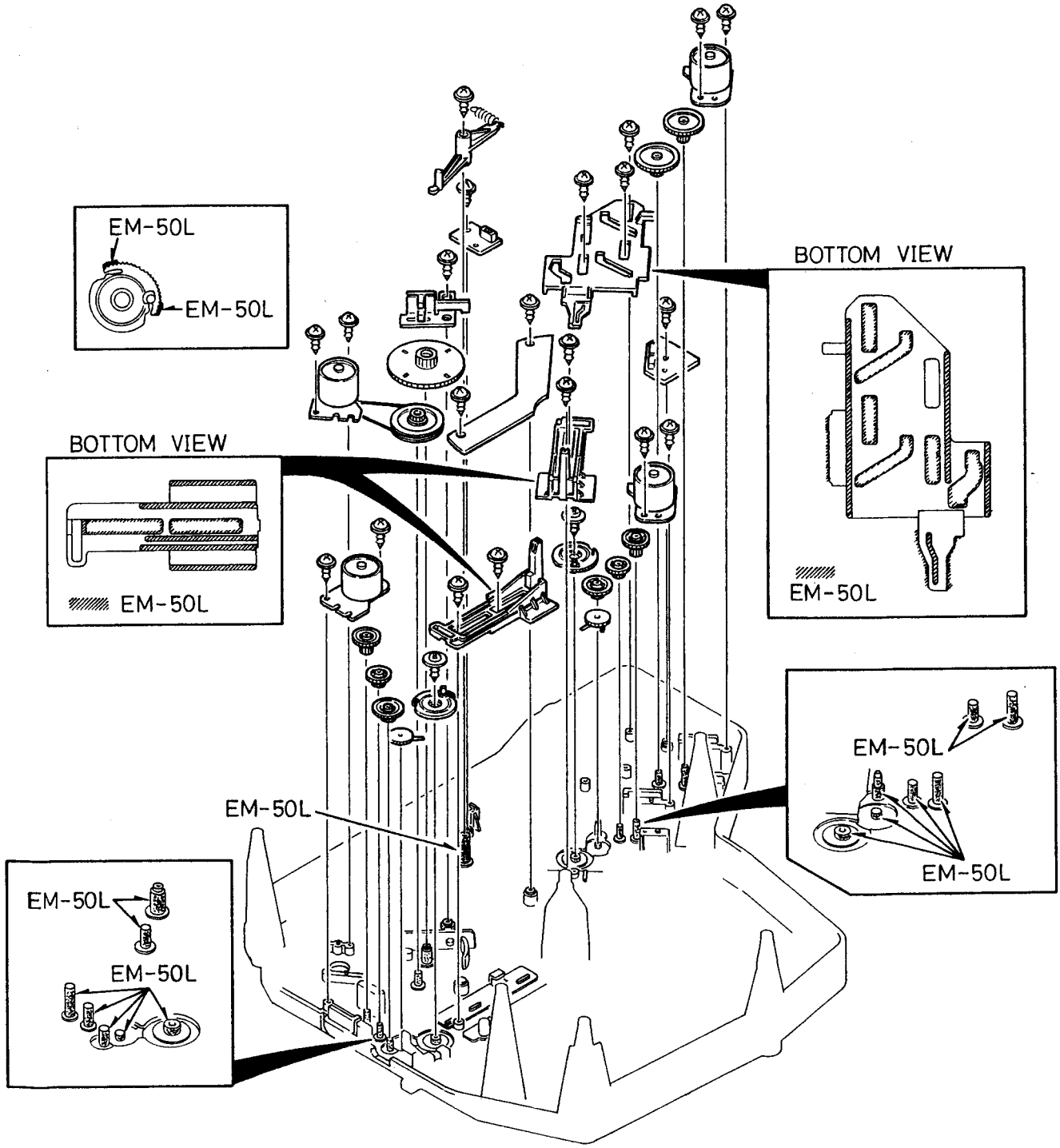



Apply MC-grease "EM-50L" to the places indicated in the diagram.

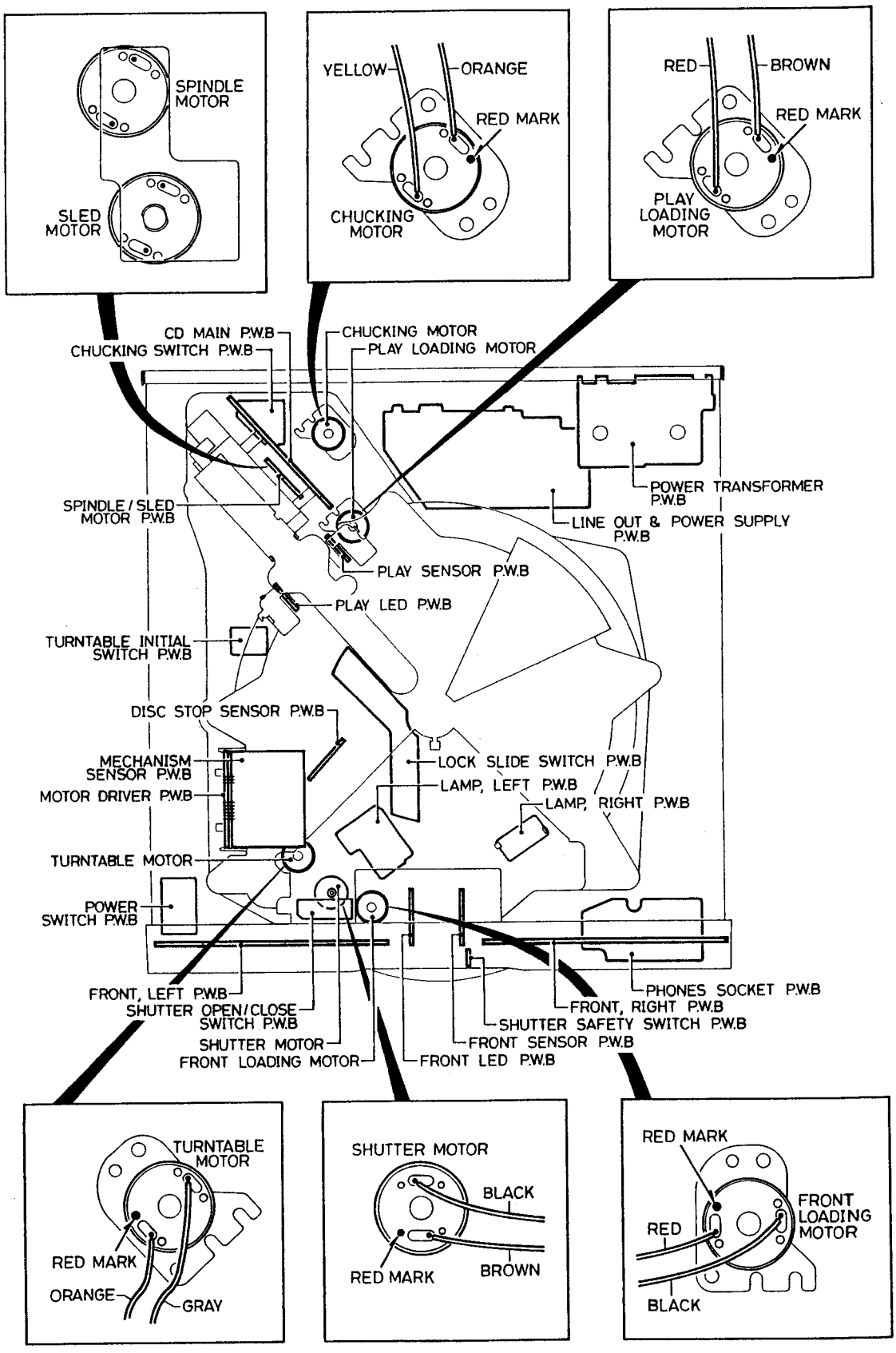
### e. MOTOR & LOADING GEAR

- Apply MC-grease "EM-50L" to the places indicated in the diagram.



## REMOVAL AND INSTALLATION

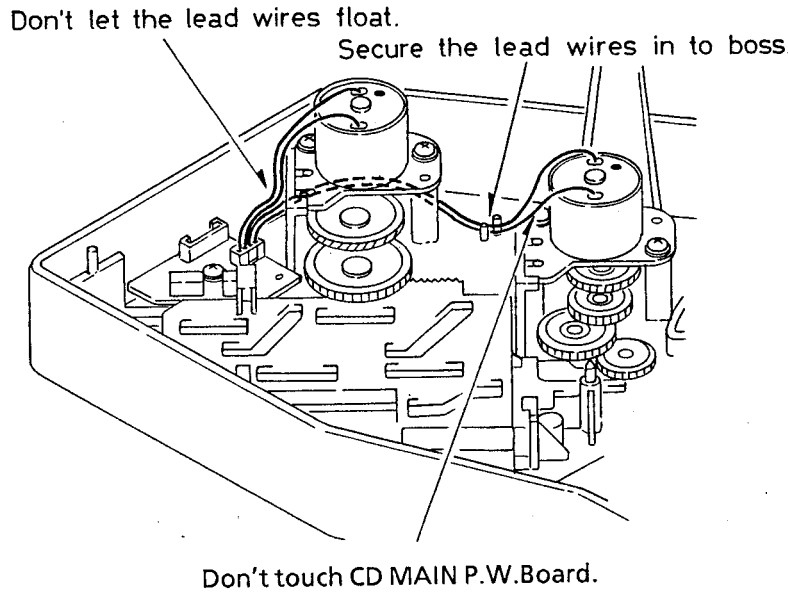
### f. REPLACEMENT OF MOTOR



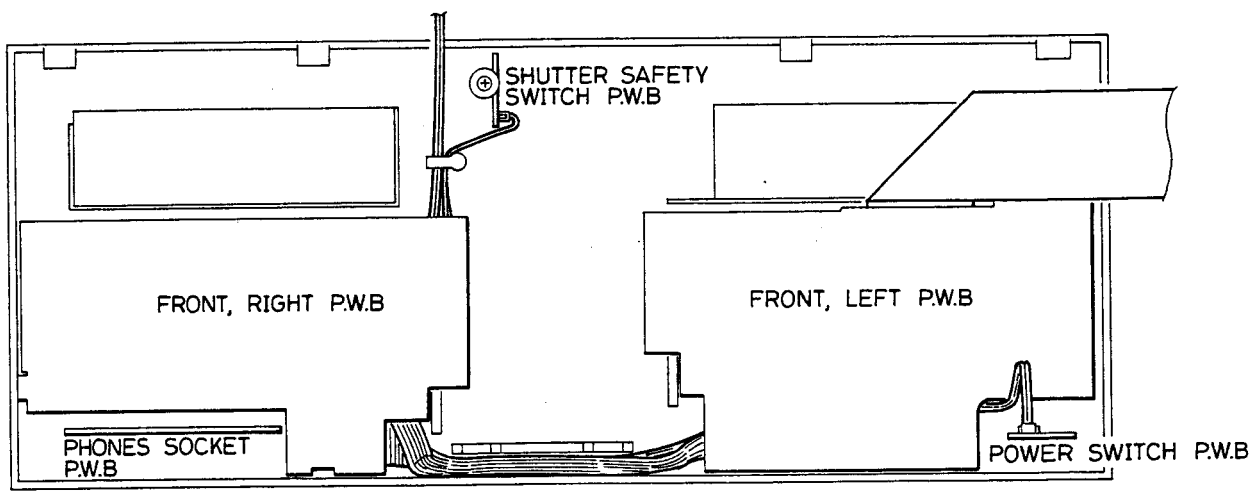
## g. WIRING LAYOUT

.● All wiring should be returned to the original position after work is completed.

**(a) PLAY LOADING & CHUCKING MOTOR**



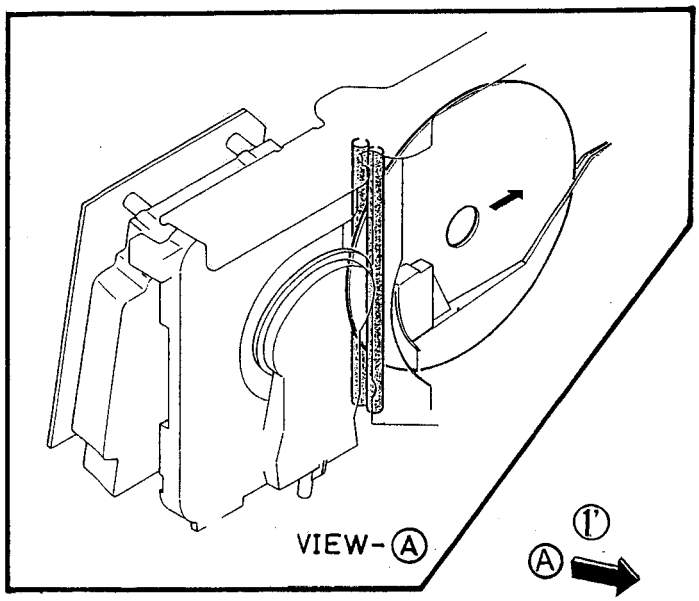

**(b) FRONT PANEL**



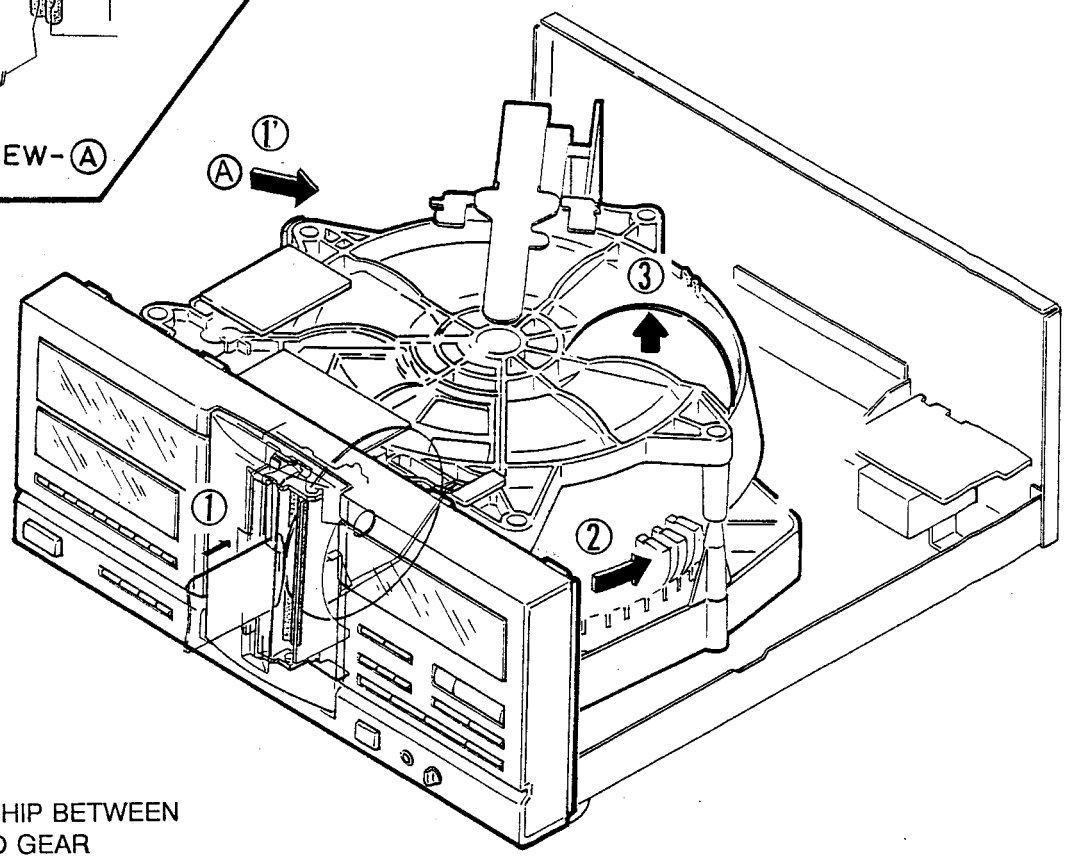
## REMOVAL AND INSTALLATION

### h. REMOVING CDS FROM 60-DISC TABLE (TURNTABLE)

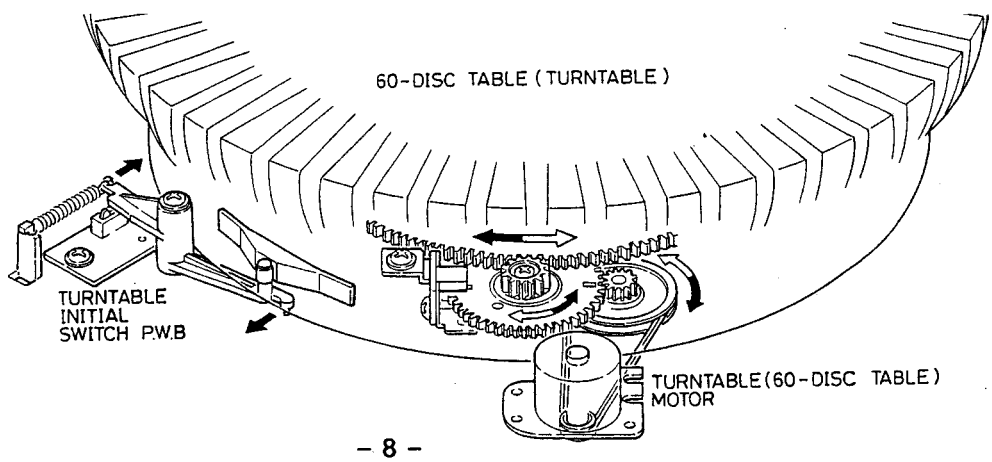
- If the CDs cannot be removed




(1) Check the disc position.
(2) If the disc is stopped at position (①), use a cars or the like to push it in temporarily.
(3) If the disc is stopped at position (①'), push gently on the disc hole with your fingertip.
(4) If the disc is stopped at position (③), remove it.




- DIAGRAM OF RELATIONSHIP BETWEEN TURNTABLE MOTOR AND GEAR



## CD CHANGER MOVEMENT TEST

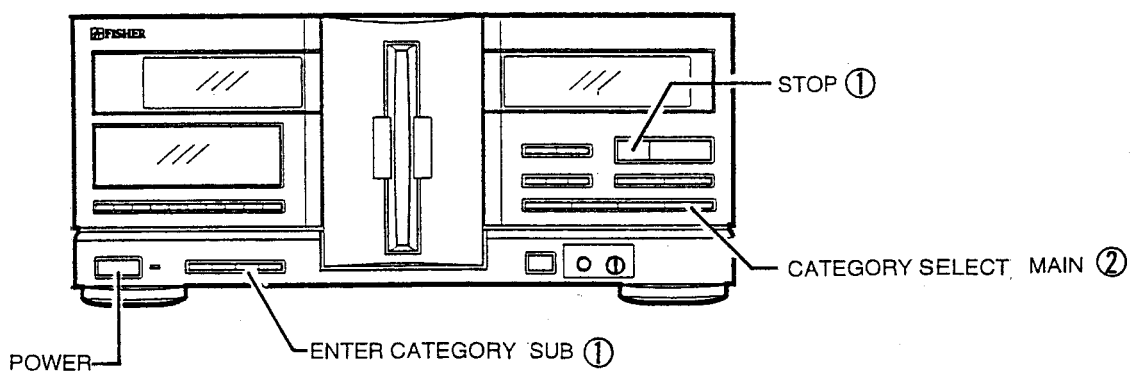
- When servicing CD changers, check the movement according to the following procedures.
  Find the malfunctioning location and check the surrounding parts.

### a. LOADING MECHANISM

MOVEMENT OF LOADING MECHANISM

| No. | DESCRIPTION | NO. | DESCRIPTION |
|---|---|---|---|
| 1 | MECHANISM INITIAL OPERATION | 10 | CHUCKING "OFF" |
| 2 | 60-DISC TABLE TURNS TILL THE No.57 COMES TO FRONT | 11 | DISC MOVES TO DISC TABLE |
| | | 12 | CHUCKING "ON" |
| 3 | SHUTTER "OPENS" | 13 | DISC MOVES TO FRONT |
| 4 | LOAD DISC | 14 | SHUTTER "OPENS" |
| 5 | SHUTTER "CLOSES" | 15 | DISC "EJECT" |
| 6 | DISC TABLE TURNS (BASE MECHANISM) | 16 | TAKE OUT DISC |
| 7 | CHUCKING "OFF" | 17 | SHUTTER "CLOSES" |
| 8 | DISC MOVES TO BASE MECHANISM | | |
| 9 | CHUCKING "ON" | | |

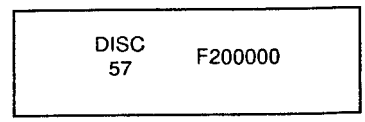
(1) Prepare a test disc.
(2) Turn the POWER switch off.
(3) Set the CD changer to service mode.

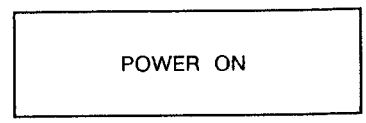


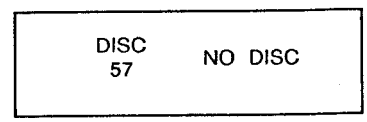

- Simultaneously press the ENTER CATEGORY "SUB" and STOP keys ①, and then press the CATEGORY SELECT "MAIN" key within one second ②.
  The CD changer will switch to service mode and the power will automatically turn on.

## CD CHANGER MOVEMENT TEST

(4) Insert the test disc after the shutter opens.
(5) The test disc enters disc table "57" and is loaded to the base mechanism.
(6) After the chucking is turned on and off by the base mechanism, the disc table rotates and brings the test disc to a position where it can be removed.
(7) Remove the test disc.
(8) The FL display indicates "POWER ON" and then "57 NO DISC".
(9) If there is any trouble with the mechanism movement, an error message is displayed as shown in the Mechanism Error Indications.
(10) To cancel service mode, turn off the POWER switch.




ERROR INDICATIONS ("MINUTES")

| DISPLAY (TIME) | REASON |
|---|---|
| E1 | SHUTTER MOTOR |
| E2 | FRONT LOADING MOTOR |
| E3 | TURN TABLE MOTOR (DISC TABLE MOTOR) |
| E4 | PLAY LOADING MOTOR |
| E5 | CHUCKING MOTOR |

ERROR INDICATIONS ("SECOND")

| DISPLAY (TIME) | OPERATION |
|---|---|
| E1 | S1809 SHUTTER "OPEN" |
| E2 | S1808 SHUTTER "CLOSE" |
| E3 | S1805 FRONT SLIDE (LOCK SLIDE SWITCH P.W.BOARD) |
| E4 | S1807 POSITION DETECT |
| E5 | S1802 CHUCKING "ON" |
| E6 | S1801 CHUCKING "OFF" |
| E7 | S1804 PLAY SLIDE (LOCK SLIDE SWITCH P.W.BOARD) |
| E8 | SENSOR No.2, 3, 4 and 7 |
| E9 | SENSOR No.2 ~ 7 |
| EA | SENSOR No.5 and 6 |
| EB | SENSOR No.1 |
| EC | SENSOR DISC TABLE (TURN TABLE) |
| ED | S1730 SHUTTER SAFETY |

## CD CHANGER MOVEMENT TEST

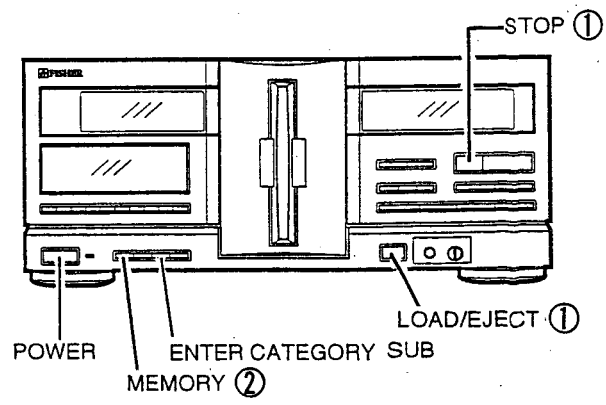
### b. BASE MECHANISM

MOVEMENT OF BASE MECHANISM

| DISPLAY | | DESCRIPTION |
|---|---|---|
| TRACK | INDEX | |
| 0 | 0 | FOCUS SEARCH "START" |
| 0 | 1 | TRACKING OFFSET ADJUSTMENT |
| 0 | 2 | FOCUS OFFSET ADJUSTMENT |
| 0 | 3 | FOCUSING "START" |
| 0 | 4 | WAITING FOR "FOCUSING" |
| 0 | 5 | FOCUSING |
| 0 | 6 | SPINDLE KICKING |
| 0 | 7 | JUDGMENT FOR DISC SIZE |
| 0 | 8 | TRACKING BALANCE ADJUSTMENT |
| 0 | 9 | FINAL JUDGMENT FOR "FOCUSING" |
| 0 | F | FOCUS SEARCH "END" (SUCCESS / FAILURE) |
| 1 | 0 | SPINDLE BRAKE "START" |
| 1 | 1 | SPINDLE BRAKING |
| 1 | 2 | PICKUP RETURNING |
| 1 | F | PICKUP RETURN "COMPLETE" |
| 2 | 0 | FAST FORWARD |
| 2 | 1 | FAST REWIND |
| 3 | 0 | PLAY "START" |
| 3 | 1 | PLAYING |
| 3 | 2 | PLAYING (RECOVER FOR TRACK JUMP) |
| 4 | 0 | TOC READ "START" |
| 4 | 1 | TOC READING |
| 4 | F | TOC READ "COMPLETE" |
| 5 | * | ACCESS MOVEMENT |
| 6 | * | PAUSE MOVEMENT |
| 7 | * | FAST ACCESS MOVEMENT |

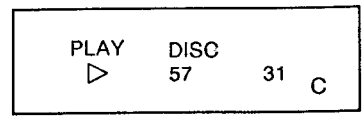
(1) Prepare a test disc.
(2) Turn the POWER switch off.
(3) Set the CD changer to service mode.

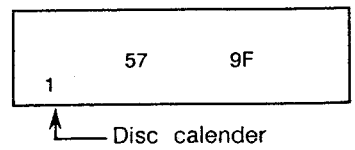
- Simultaneously press the ENTER CATEGORY "SUB" and STOP keys ①, and then press the "MEMORY" key within one second ②.
  The CD changer will switch to service mode and the power will automatically turn on.



## CD CHANGER MOVEMENT TEST

(4) Press the LOAD / EJECT key and insert the test disc after the shutter opens.
(5) Press the PLAY / PAUSE key.
(6) The FL display indicates "57 31", etc.
(7) If there is any trouble with the mechanism movement, the CD ERROR status will be displayed in the disc calendar.
(8) To cancel service mode, turn off the POWER switch.



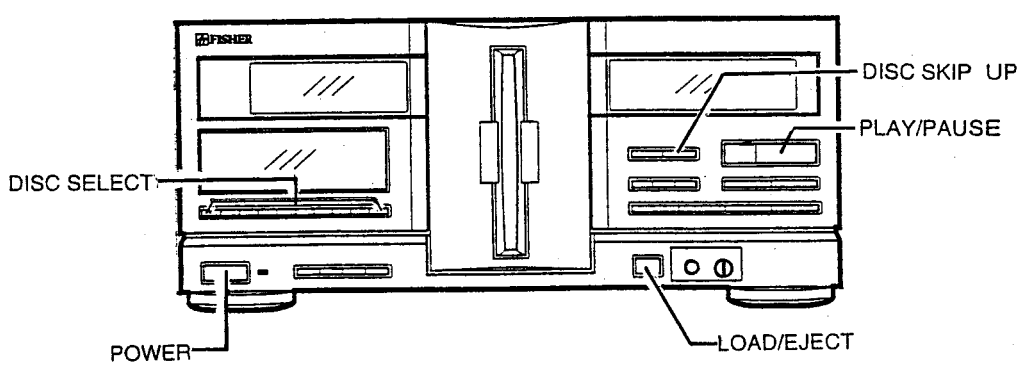




ERROR INDICATIONS ("DISC CALENDER")

| DISPLAY | REASON |
|---|---|
| | GOOD |
| 1 | FOCUSING IS "IMPOSSIBLE" |
| 2 | SUB-CODE CANNOT ENTER ON "DISC STARING" |
| 3 | TOC CANNOT "READ" |
| 4 | FOCUSING WAS LOST WHILE THE SERVO WAS "ON" |
| 5 | SUB-CODE CANNOT ENTER WHILE THE SERVO IS "ON" |

### c. DISC COUNT TEST

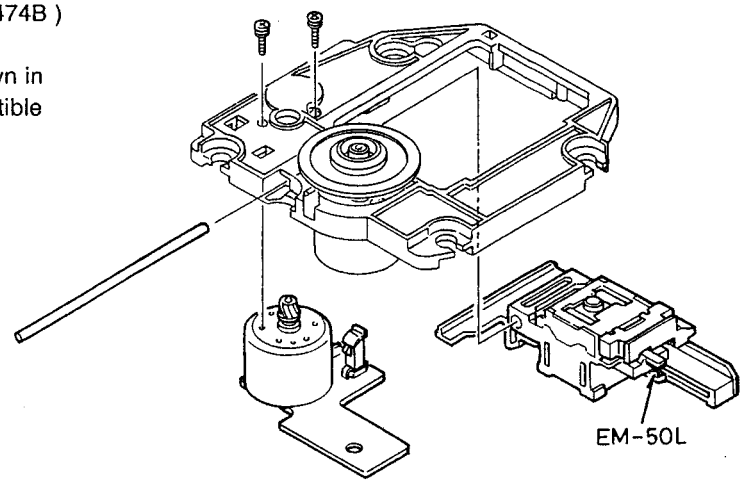
(1) Insert a disc into disc table "No. 1".
(2) Insert a disc into disc table "No. 30".
(3) Press the PLAY key.
(4) Disc "No. 30" is played.
(5) Press the DISC SKIP "UP" key.
(6) Confirm that disc "No. 1" is playing.
(7) Press the LOAD / EJECT key and remove disc "No. 1" after the shutter opens.
(8) Press DISC SELECT key "30", and then press the PLAY / PAUSE key.
(9) Press the LOAD / EJECT key and remove disc "No. 30".

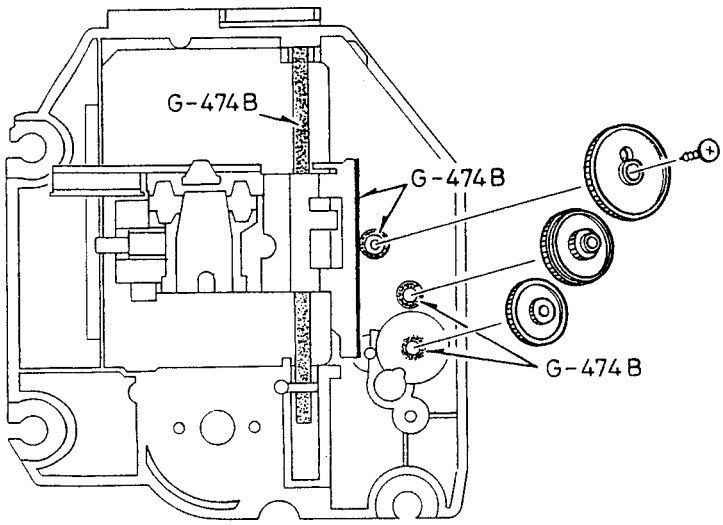


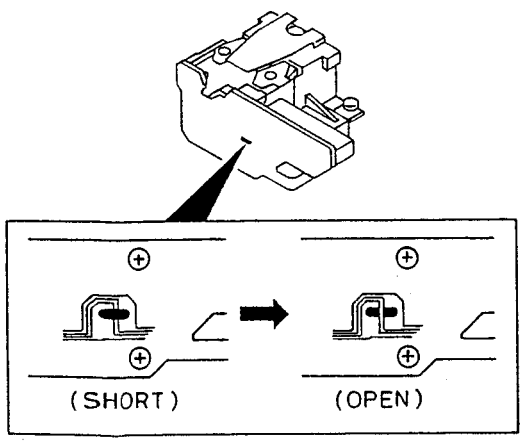
## CD PLAYER ADJUSTMENTS

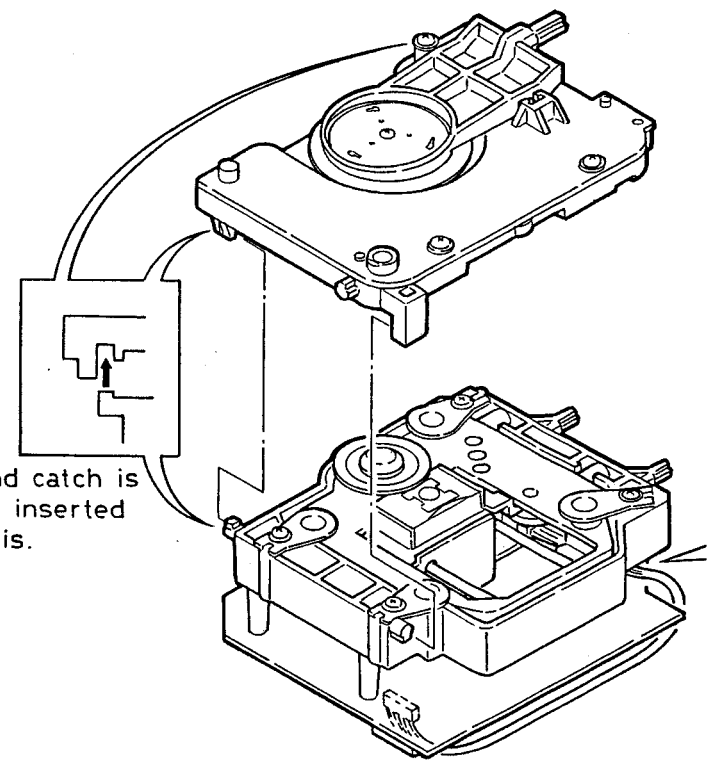
### a. REPLACEMENT AND LUBRICATION OF THE PICKUP

(1) If the pick-up is reconditioned or replaced, be sure to wipe the rails clean and also apply a coating of FLOIL ( G-474B ) to their entire circumference and entire length.
(2) The pick-up P.C.Board pattern is "**shorted**", as shown in the figure , so that the new pick-up will not be susceptible to the effects of static.
(3) Set the pattern to "**open**" after the pick-up has been replaced.



## CD PLAYER ADJUSTMENTS

### b. PREPARATIONS

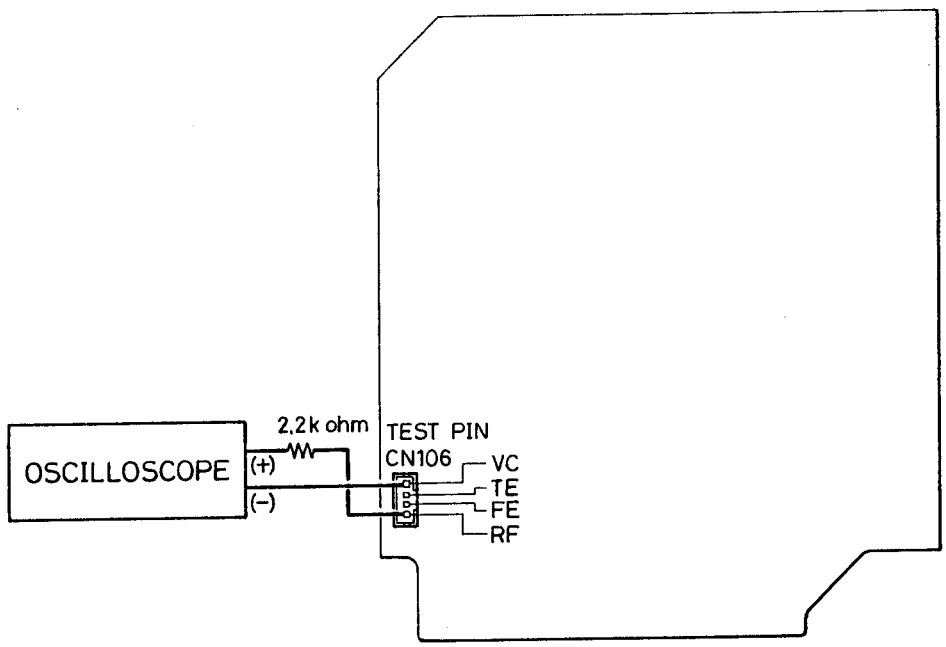
**(a) Measuring instruments, tools**

(1) Test disc. : YEDS 18 (SONY) or etc.

(2) Oscilloscope : SS5711 (10 MHz or dual-phenomenon)
or Memoryscope : DSS6521 (Storagescope)

(3) Resistor, Carbon 2.2 K ohm, 1/4W

### c. PARTS LOCATION




### d. CHECKING THE EYE PATTERN

(1) Switch ON the power.

(2) Connect an oscilloscope to CN106 ( RF ) and CN106 ( VC ).

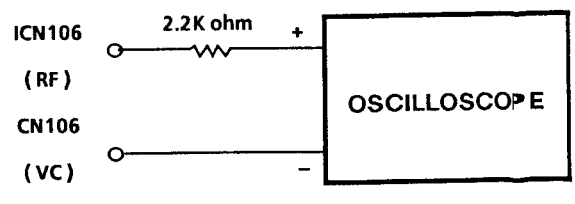
(3) Load the test disc.

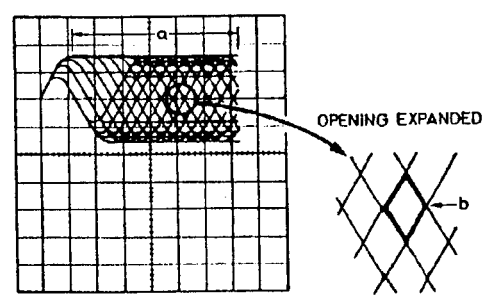
(4) PLAY switch push ON.

(5) Check to be sure that the " **eye** " pattern is at the center of waveform and that the diamond shape is clearly defined.

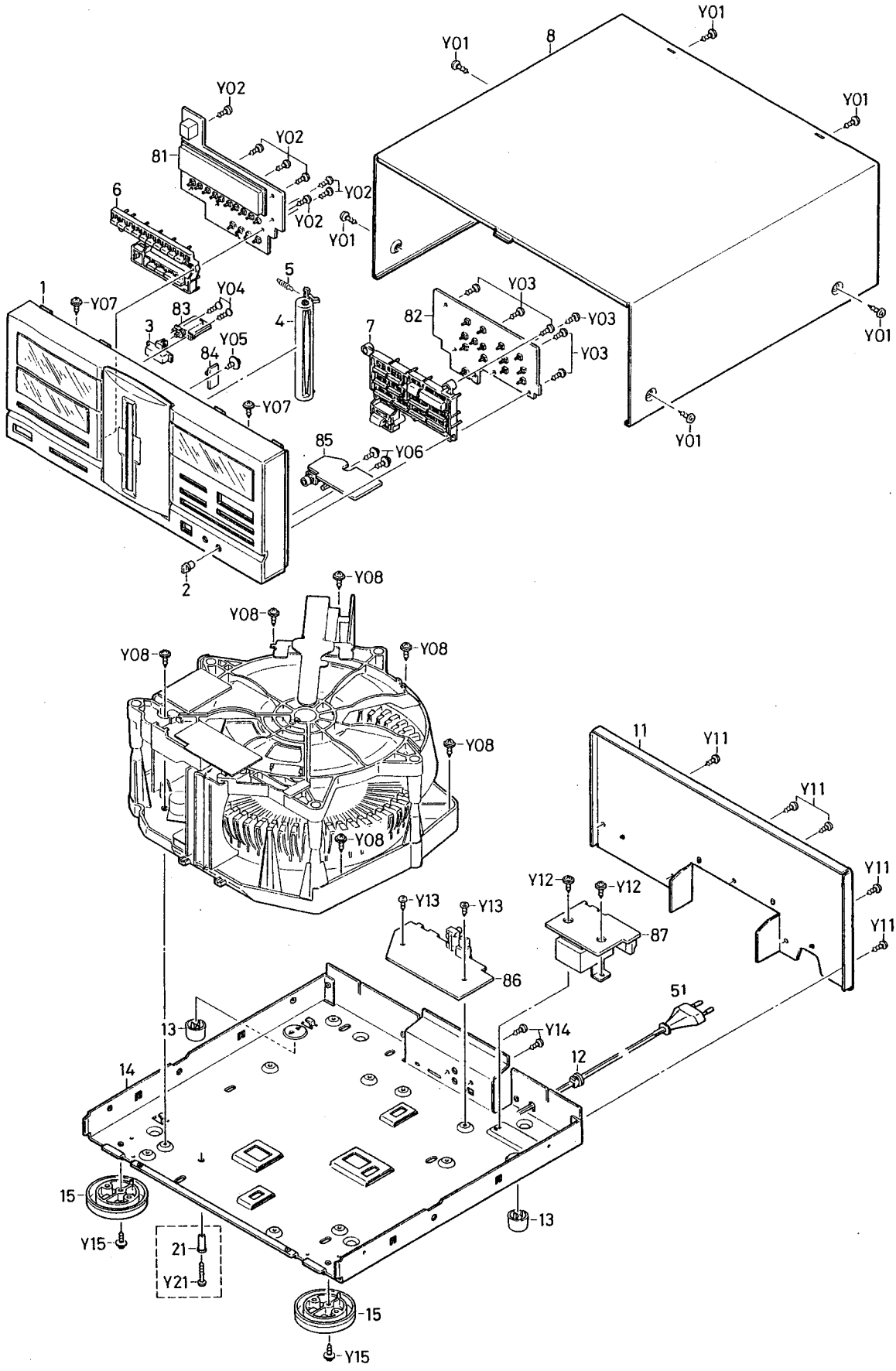
(6) Press the STOP button.center

(7) Switch OFF the power.



## EXPLODED VIEW ( CABINET & CHASSIS )



## PARTS LIST

### PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

**CAUTION: Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.**

**N.S.P : Not available as service parts.**

### PACKING & ACCESSORIES

| Ref. No. | Part No. | Description |
|---|---|---|
| | 614 272 7553 | CARTON CASE,SET |
| | 614 269 8174 | CUSHION,SET,TOP |
| | 614 269 8181 | CUSHION,SET,BOTTOM |
| | 614 272 7577 | OWNERS MANUAL |
| | 645 011 9286 | POLY SHEET,1300X490MM |
| | 614 255 5033 | NOTICE |
| | 614 255 5040 | LABEL,SHIPPING SCREW |
| | 614 216 6833 | CORD,LINE OUT |
| | 614 191 3698 | LABEL,LASER CAUTION MARK |
| | 614 232 0464 | LABEL,SAFETY,CAUTION |
| | 614 231 6832 | LABEL,SAFETY,CLASS 1 |
| | 645 008 9497 | REMOTE CONTROL,RB-RDAC-6015 |
| | 613 154 5489 | LID,REMOTE CONTROL |

### CABINET & CHASSIS

| Ref. No. | Part No. | Description |
|---|---|---|
| 1 | 614 272 7225 | ASSY,PANEL,FRONT |
| 2 | 614 267 0316 | ROTARY KNOB,PHONES VOLUME |
| 3 | 614 248 6160 | BUTTON,POWER SWITCH |
| 4 | 614 248 9178 | DOOR,SHUTTER |
| 5 | 614 249 4059 | SPRING,TENSION,SHUTTER DOOR |
| 6 | 614 264 7578 | BUTTON,LEFT SIDE,FRONT,DISC SELECT/ENTER CATEGORY |
| 7 | 614 264 7561 | BUTTON,RIGHT SIDE,FRONT,OPERATION |
| 8 | 614 265 6136 | CABINET,TOP |
| 11 | 614 272 7423 | PANEL,REAR |
| 12 | 614 129 1901 | FIXER,AC POWER CORD |
| 13 | 614 252 8969 | ASSY,FOOT,BOTTOM,REAR |
| 14 | 614 265 6143 | CABINET,BOTTOM |
| 15 | 614 268 0827 | ASSY STAND,BOTTOM,FRONT |
| 21 | 614 255 3350 | PIPE,SHIPPING |
| | 614 272 9646 | COVER,BLACK SHEET,MOTOR DRIVER P.W.BOARD (586) MTG. |

### FIXING PARTS

| Ref. No. | Part No. | Description |
|---|---|---|
| Y01 | 411 021 6603 | SCR S-TPG BIN 3X8MM,CABINET |
| Y02 | 411 021 3503 | SCR S-TPG BIN 3X10MM, FRONT,LEFT PWB |
| Y03 | 411 021 3503 | SCR S-TPG BIN 3X10MM, FRONT RIGHT |
| Y04 | 411 022 2802 | SCR S-TPG FLT 3X10MM, POWER SWITCH |
| Y05 | 412 032 6408 | SPECIAL SCREW,SHUTTER SAFETY SWITCH |
| Y06 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, PHONES SOCKET PWB |
| Y07 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, FRONT PANEL |
| Y08 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, ROTARY CHANGER MECHANISM |
| Y11 | 411 021 6405 | SCR S-TPG BIN 3X8MM, REAR CABINET |
| Y12 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, POWER TRANSFORMER |
| Y13 | 411 021 6405 | SCR S-TPG BIN 3X8MM, LINE OUT & POWER SUPPLY PWB |
| Y14 | 411 021 3503 | SCR S-TPG BIN 3X10MM, LINE OUT SOCKET |
| Y15 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, FOOT STAND |
| Y21 | 411 001 1703 | SCR S-TPG PAN 3X30MM, SHIPPING SCREW |

### ELECTRICAL PARTS

| Ref. No. | Part No. | Description |
|---|---|---|
| 51 | ⚠614 023 3100 | POWER CORD,AC |
| or | ⚠614 255 2513 | POWER CORD,AC |
| or | ⚠614 233 8971 | POWER CORD,AC |
| or | ⚠614 023 3148 | POWER CORD,AC |
| T1001 | ⚠645 011 8456 | TRANSFORMER,POWER |
| 61 | 614 253 5806 | ASSY,CONNECTOR-S,4P, CHUCKING MOTOR & PLAY LOADING MOTOR |
| 62 | 614 253 8968 | ASSY,CONNECTOR-S,7P (CN181-CN151) |
| OR | 614 271 9251 | |
| 63 | 614 253 8920 | ASSY,CONNECTOR-S,2P (CN159-CN189) |
| OR | 614 273 9501 | |
| 64 | 614 270 4738 | ASSY,CONNECTOR-S,8P (CN160-CN188) |
| OR | 614 273 9587 | |
| 65 | 614 268 8823 | ASSY,WIRE,4P, FRONT LOADING & TURNTABLE MOTOR (CN153) |
| 66 | 614 253 8913 | ASSY,CONNECTOR-S,2P (CN186-CN150) |
| OR | 614 271 9213 | |
| 67 | 614 253 8913 | ASSY,CONNECTOR-S,2P (CN191-CN158) |
| OR | 614 271 9213 | |
| 68 | 614 270 4721 | ASSY,CONNECTOR-S,2P (CN190-CN157) |
| OR | 614 273 9556 | |
| 69 | 614 253 8951 | ASSY,CONNECTOR-S,6P (CN183-CN152) |
| OR | 614 271 9244 | |
| 70 | 614 268 8816 | ASSY,WIRE,2P, SHUTTER MOTOR (CN150) |

## PARTS LIST

| Ref. No. | Part No. | Description |
|---|---|---|
| 71 | 614 270 3632 | ASSY,WIRE,CD DIGITAL OUT (CN120-CN104) |
| 72 | 614 253 5288 | ASSY,CONNECTOR-S,4P (CN115-CN105) |
| 73 | 614 253 5271 | ASSY,CONNECTOR-S,2P (CN116-CN104) |
| 74 | 614 269 6361 | ASSY,WIRE,6P (CN119-CN135) |
| 75 | 614 269 6378 | ASSY,WIRE,7P (CN112-CN134) |
| 76 | 645 010 2776 | FLEXIBLE FLAT CABLE,32P (CN130-CN156) |
| 77 | 645 010 2783 | FLEXIBLE FLAT CABLE,15P (CN131-CN103) |
| 78 | 614 270 3649 | ASSY,WIRE,5P (CN125-CN121) |
| 79 | 614 273 9532 | ASSY,CONNECTOR-S,3P (CN187-CN155) |
| OR | 614 270 4714 | |

### FRONT, LEFT P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 81 | 614 272 8215 | ASSY,PWB,FRONT,LEFT |
| | 614 266 6579 | HOLDER,FL DISPLAY |
| C1304 | 404 060 3009 | OS-SOLID 10U M 16V |
| CN130 | 614 227 8062 | SOCKET,32P |
| CN131 | 614 227 7720 | SOCKET,15P |
| CN132 | 614 035 4959 | SOCKET,6P |
| CN133 | 614 035 4911 | SOCKET,2P |
| or | 614 237 9752 | SOCKET,2P |
| CN134 | 645 006 0946 | PLUG,7P |
| CN135 | 645 005 8127 | PLUG,6P |
| CN136 | 614 035 4911 | SOCKET,2P |
| or | 614 237 9752 | SOCKET,2P |
| D1301 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| or | 407 012 5809 | DIODE 1SS176 |
| D1302 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| or | 407 012 5809 | DIODE 1SS176 |
| D1306 | 408 020 9704 | LED SLZ-151B-01-AB |
| D1311 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| or | 407 012 5809 | DIODE 1SS176 |
| D1312 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| or | 407 012 5809 | DIODE 1SS176 |
| D1313 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| or | 407 012 5809 | DIODE 1SS176 |
| D1320 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| or | 407 012 5809 | DIODE 1SS176 |
| D1706 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| or | 407 012 5809 | DIODE 1SS176 |
| FL171 | 645 008 7035 | FLUORESCENT TUBE |
| IC111 | 410 234 1306 | IC CXP82432A-118Q |
| IC112 | 409 351 4307 | IC ST24C16CB1 |
| or | 410 225 5801 | IC AT24C16-10PC |
| Q1301 | 405 000 4407 | TR DTC124ES |
| or | 405 078 2800 | TR BA1F4M |
| or | 405 001 0309 | TR RN1203 |
| Q1320 | 405 011 8609 | TR 2SC1740S-S |
| or | 405 011 8500 | TR 2SC1740S-R |
| or | 405 015 6403 | TR 2SC2785-F |
| or | 405 015 6205 | TR 2SC2785-E |
| or | 405 014 5209 | TR 2SC2458-GR |
| Q1602 | 405 001 9302 | TR 2SA1020-Y |
| Q1651 | 405 011 8609 | TR 2SC1740S-S |
| or | 405 011 8500 | TR 2SC1740S-R |
| or | 405 015 6403 | TR 2SC2785-F |
| or | 405 015 6205 | TR 2SC2785-E |
| or | 405 014 5209 | TR 2SC2458-GR |
| X1301 | 614 215 5561 | RESONATOR,CERAMIC |
| S1701 | 645 006 2827 | SWITCH,PUSH 1P-1T, DISC SELECT,"0" |
| S1702 | 645 006 2827 | SWITCH,PUSH 1P-1T, DISC SELECT,"9" |
| S1703 | 645 006 2827 | SWITCH,PUSH 1P-1T, DISC SELECT,"8" |
| S1704 | 645 006 2827 | SWITCH,PUSH 1P-1T, DISC SELECT,"7" |
| S1705 | 645 006 2827 | SWITCH,PUSH 1P-1T, DISC SELECT,"6" |
| S1706 | 645 006 2827 | SWITCH,PUSH 1P-1T, DISC SELECT,"5" |
| S1707 | 645 006 2827 | SWITCH,PUSH 1P-1T, DISC SELECT,"4" |
| S1708 | 645 006 2827 | SWITCH,PUSH 1P-1T, DISC SELECT,"3" |
| S1709 | 645 006 2827 | SWITCH,PUSH 1P-1T, DISC SELECT,"2" |
| S1710 | 645 006 2827 | SWITCH,PUSH 1P-1T, DISC SELECT,"1" |
| S1712 | 645 006 2827 | SWITCH,PUSH 1P-1T, ENTER CATEGORY,MAIN |
| S1713 | 645 006 2827 | SWITCH,PUSH 1P-1T, ENTER CATEGORY,SUB |
| S1716 | 645 006 2827 | SWITCH,PUSH 1P-1T,MEMORY |
| S1717 | 645 006 2827 | SWITCH,PUSH 1P-1T,CLEAR |
| S1750 | 407 138 4700 | PHOTO DIODE SPS-420-1, IR SENSOR |

### FRONT, RIGHT P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 82 | 614 272 8208 | ASSY,PWB,FRONT RIGHT |
| CN138 | 614 035 4959 | SOCKET,6P |
| CN139 | 614 035 4911 | SOCKET,2P |
| or | 614 237 9752 | SOCKET,2P |
| S1714 | 645 006 2827 | SWITCH,PUSH 1P-1T, DISC SKIP,"UP" |
| S1715 | 645 006 2827 | SWITCH,PUSH 1P-1T, DISC SKIP,"DOWN" |
| S1718 | 645 006 2827 | SWITCH,PUSH 1P-1T,LOAD/EJECT |
| S1719 | 645 006 2827 | SWITCH,PUSH 1P-1T,STOP |
| S1720 | 645 006 2827 | SWITCH,PUSH 1P-1T,PLAY/PAUSE |
| S1721 | 645 006 2827 | SWITCH,PUSH 1P-1T,FWD |
| S1722 | 645 006 2827 | SWITCH,PUSH 1P-1T,BACK |
| S1723 | 645 006 2827 | SWITCH,PUSH 1P-1T, CATEGORY,MAIN |
| S1724 | 645 006 2827 | SWITCH,PUSH 1P-1T, CATEGORY,SUB |
| S1725 | 645 006 2827 | SWITCH,PUSH 1P-1T,REPEAT |
| S1726 | 645 006 2827 | SWITCH,PUSH 1P-1T,RANDOM |
| S1727 | 645 006 2827 | SWITCH,PUSH 1P-1T,INTRO |
| S1728 | 645 006 2827 | SWITCH,PUSH 1P-1T,DISPLAY |
| S1729 | 645 006 2827 | SWITCH,PUSH 1P-1T,EDIT |

## PARTS LIST

### POWER SWITCH P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 83 | 614 267 2945 | ASSY,PWB,POWER SWITCH |
| CN137 | 614 035 4911 | SOCKET,2P |
| or | 614 237 9752 | SOCKET,2P |
| S1700 | 614 253 1150 | SWITCH,PUSH,POWER |

### SHUTTER SAFETY SWITCH P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 84 | 614 266 1581 | ASSY,PWB,SHUTTER SAFETY SWITCH |
| CN143 | 614 035 4911 | SOCKET,2P |
| or | 614 237 9752 | SOCKET,2P |
| S1730 | 614 249 1355 | SWITCH,LEVER,SHUTTER SAFETY |

### PHONES SOCKET P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 85 | 614 272 6495 | ASSY,PWB,PHONES |
| C1578 | 403 061 9003 | POLYESTER 4700P M 50V |
| C1588 | 403 061 9003 | POLYESTER 4700P M 50V |
| CN125 | 645 004 2911 | PLUG,5P |
| CN126 | 614 248 6962 | SOCKET,PHONES |
| IC165 | 409 194 6605 | IC TDA2822M |
| L1577 | 614 028 6748 | FILTER,10U |
| L1587 | 614 028 6748 | FILTER,10U |
| L1690 | 614 028 6748 | FILTER,10U |
| VR160 | 645 011 0436 | VR,ROTARY 100KAX2, PHONES LEVEL CONTROL |

### LINE OUT & POWER SUPPLY P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 86 | 614 272 6501 | ASSY,PWB,LINE OUT & POWER SUPPLY |
| CN111 | 645 004 2928 | PLUG,6P |
| CN112 | 645 006 0861 | PLUG,7P |
| CN115 | 645 005 8110 | PLUG,4P |
| CN116 | 645 005 7366 | PLUG,2P |
| CN117 | 645 008 7028 | JACK,RCA-2 |
| CN119 | 645 005 8127 | PLUG,6P |
| CN120 | 645 005 7373 | PLUG,3P |
| CN121 | 645 004 2911 | PLUG,5P |
| CN123 | 614 240 5703 | OPTO CONNECTOR |
| D1601 | ⚠408 007 9307 | DIODE 1SR35-200A-HP |
| D1602 | ⚠408 007 9307 | DIODE 1SR35-200A-HP |
| D1603 | ⚠408 007 9307 | DIODE 1SR35-200A-HP |
| D1604 | ⚠408 007 9307 | DIODE 1SR35-200A-HP |
| D1605 | ⚠408 007 9307 | DIODE 1SR35-200A-HP |
| D1606 | 407 100 0303 | ZENER DIODE MTZJ36B |
| D1607 | 407 099 5105 | ZENER DIODE MTZJ4.7B |
| D1608 | 407 099 5907 | ZENER DIODE MTZJ8.2C |
| D1631 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| or | 407 012 5809 | DIODE 1SS176 |
| HS161 | 614 215 9347 | HEAT SINK,IC161 MTG. |
| HS162 | 614 215 9347 | HEAT SINK,Q1601 MTG. |
| IC161 | ⚠409 254 7207 | IC NJM7809FA |
| or | ⚠409 066 4500 | IC L7809ML |
| or | ⚠409 066 4005 | IC AN7809F |
| L1501 | 614 212 3171 | INDUCTOR,FERITE |
| or | 645 006 9864 | INDUCTOR,80UH,1A |
| L1502 | 614 212 3171 | INDUCTOR,FERITE |
| or | 645 006 9864 | INDUCTOR,80UH,1A |

| Ref. No. | Part No. | Description |
|---|---|---|
| LUG01 | 614 217 7273 | LUG |
| LUG02 | 614 217 7273 | LUG |
| Q1501 | 405 011 8609 | TR 2SC1740S-S |
| or | 405 011 8500 | TR 2SC1740S-R |
| or | 405 015 6403 | TR 2SC2785-F |
| or | 405 015 6205 | TR 2SC2785-E |
| or | 405 014 5209 | TR 2SC2458-GR |
| Q1502 | 405 011 8609 | TR 2SC1740S-S |
| or | 405 011 8500 | TR 2SC1740S-R |
| or | 405 015 6403 | TR 2SC2785-F |
| or | 405 015 6205 | TR 2SC2785-E |
| or | 405 014 5209 | TR 2SC2458-GR |
| Q1503 | 405 082 4609 | TR DTA123YS |
| Q1601 | ⚠405 077 9008 | TR TIP29B |
| Q1631 | 405 011 8609 | TR 2SC1740S-S |
| or | 405 011 8500 | TR 2SC1740S-R |
| or | 405 015 6403 | TR 2SC2785-F |
| or | 405 015 6205 | TR 2SC2785-E |
| or | 405 014 5209 | TR 2SC2458-GR |
| Q1650 | 405 001 9302 | TR 2SA1020-Y |
| R1605 | ⚠402 004 5300 | FUSIBLE RES 2.2 J- 1/4W |
| RA106 | 614 218 0433 | RESISTOR,100K OHM X 5 |
| or | 614 209 3634 | RESISTOR,100K OHM X 5 |
| SA161 | 411 021 5705 | SCR S-TPG BIN 3X6MM, IC161 MTG. |
| SA162 | 411 021 5705 | SCR S-TPG BIN 3X6MM, Q1601 MTG. |

### POWER TRANSFORMER P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 87 | 614 272 6488 | ASSY,PWB,POWER TRANSFORMER |
| | 614 017 8203 | TERMINAL BOARD |
| CN110 | 614 020 6586 | SOCKET,6P |
| CN160 | 614 269 0659 | SOCKET,6P,100 MM (CN110-CN111) |
| L1604 | ⚠614 229 0408 | INDUCTOR,FERITE,1.2A |
| PR160 | ⚠645 005 9957 | PROTECTOR,IC, 1.5A 50V |
| R160 | ⚠402 045 6106 | RESISTOR 0.47 J-2W |

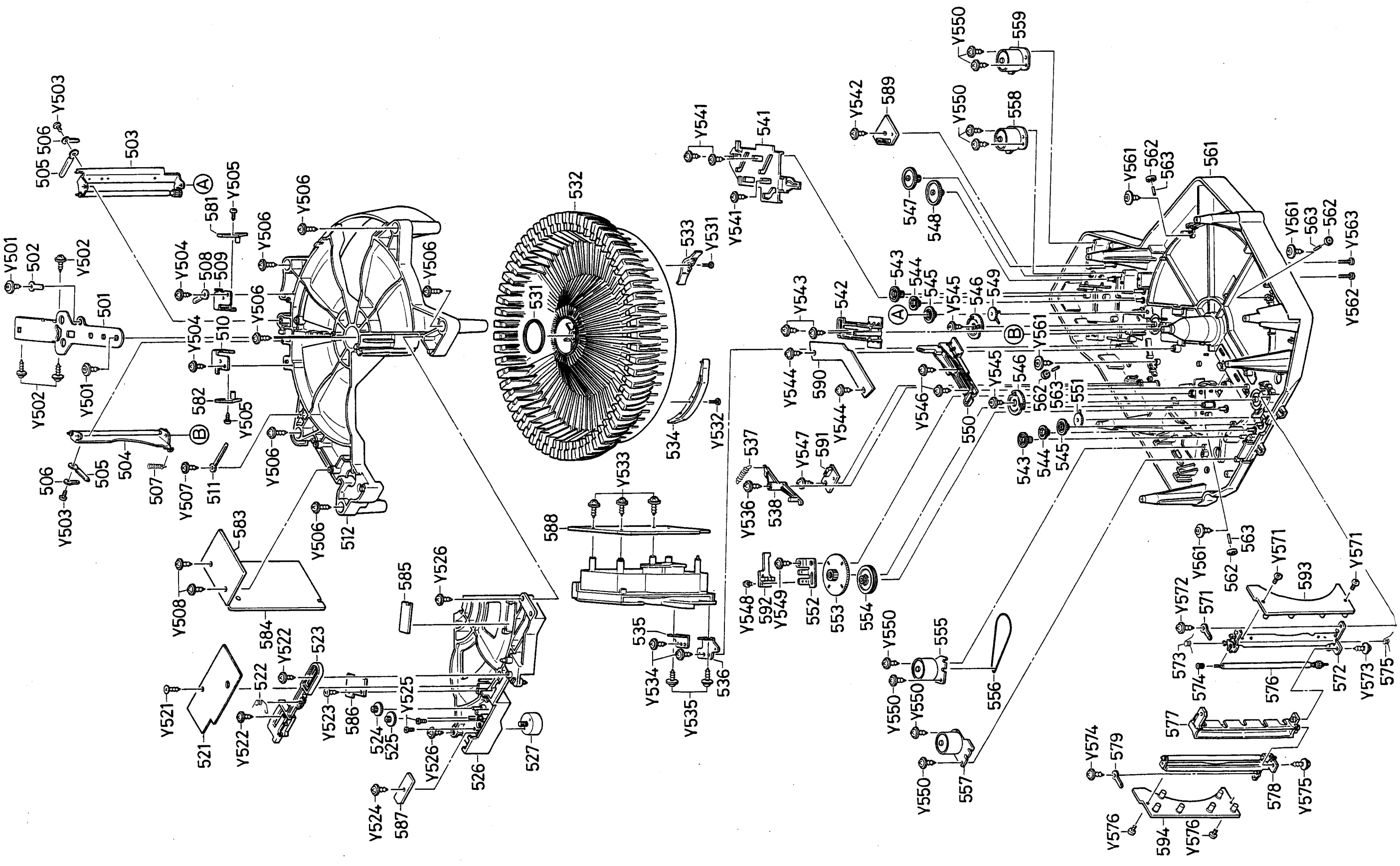
## PARTS LIST

### CD CHANGER MECHANISM (PM-CDRCH3) ... (N.S.P)

| Ref. No. | Part No. | Description |
|---|---|---|
| 501 | 614 247 8899 | BRACKET-M,CD MECHANISM SUPPORT,TOP |
| 502 | 614 129 9099 | LUG,ROTARY CHANGER MECHANISM,TOP |
| 503 | 614 254 8035 | ASSY,LEVER,ROLLER BACK RIGHT |
| 504 | 614 254 8028 | ASSY,LEVER,PLAY LEFT ROLLER |
| 505 | 614 129 9341 | LUG,WIRE FIX |
| 506 | 614 129 9068 | LUG,GROUND |
| 507 | 614 247 9315 | SPRING,TENSION, PLAY LEFT ROLLER |
| 508 | 614 129 9105 | LUG,WIRE FIX |
| 509 | 614 248 9307 | BRACKET-E,PLAY SENSOR PWB |
| 510 | 614 248 9314 | BRACKET-E,PLAY LED |
| 511 | 614 129 9136 | LUG,FRONT LEAD FIX |
| 512 | 614 265 8505 | COVER,TOP PANEL |
| 521 | 614 248 9321 | BRACKET-M, SHUTTER OPEN/CLOSE GEAR |
| 522 | 614 249 4066 | SPRING,TORSION,SHUTTER PUSH |
| 523 | 614 247 9049 | GEAR,SHUTTER DRIVE GEAR |
| 524 | 614 247 9124 | GEAR,IDLER FOR SHUTTER |
| 525 | 614 247 9131 | GEAR,IDLER FOR SHUTTER |
| 526 | 614 265 8482 | COVER,TOP PANEL |
| 527 | 645 009 6167 | ASSY,MOTOR SHUTTER |
| 531 | 614 265 8420 | BELT,SQUARE, PREVENT FOR NOISE |
| 532 | 614 265 8574 | TURNTABLE,60 DISC TABLE |
| 533 | 614 247 8981 | MOUNT-M,SWITCH LEVER DRIVE |
| 534 | 614 265 8963 | CAM,SWITCH LEVER DRIVE |
| 535 | 614 247 8912 | BRACKET-M,CD MECHANISM BRAKET,BACK |
| 536 | 614 247 8905 | BRACKET-M,CD MECHANISM BRAKET,FRONT |
| 537 | 614 249 0525 | SPRING,TENSION,PINCH LEVER |
| 538 | 614 247 9216 | LEVER,SWITCH |
| 541 | 614 247 9261 | SLIDE,CHUCK DRIVE |
| 542 | 614 247 9278 | SLIDE,DISC |
| 543 | 614 247 9131 | GEAR,LOADING,2,FRONT |
| 544 | 614 247 9124 | GEAR,LOADING,3,FRONT |
| 545 | 614 247 9117 | GEAR,LOADING,4,FRONT |
| 546 | 614 247 9087 | GEAR,SLIDE CAM |
| 547 | 614 247 9070 | GEAR,SLIDE DRIVER M-1 |
| 548 | 614 247 9063 | GEAR,SLIDE DRIVER M-2 |
| 549 | 614 253 9071 | ASSY,GEAR,SLIP,FRONT |
| 550 | 614 247 9278 | SLIDE,DISC |
| 551 | 614 253 9071 | ASSY,GEAR,SLIP,PLAY |
| 552 | 614 247 8882 | BRACKET-E,SENSOR |
| 553 | 614 265 8529 | GEAR,TURN TABLE |
| 554 | 614 265 8550 | PULLEY,TURN TABLE |
| 555 | 614 253 6957 | ASSY,MOTOR,TURN TABLE MOTOR |
| 556 | 614 247 9209 | BELT,SQUARE,TURN TABLE MOTOR |
| 557 | 614 255 4999 | ASSY,MOTOR,FRONT LOADING |
| 558 | 614 255 4999 | ASSY,MOTOR,CHUCKING |
| 559 | 614 255 4999 | ASSY,MOTOR,LOADING |
| 561 | 614 265 7928 | CHASSIS,BASE |
| 562 | 614 249 9351 | ASSY,ROLLER,DISC TABLE |
| 563 | 614 249 4035 | SHAFT,DISC TABLE ROLLER |
| 571 | 614 129 9099 | LUG,GROUND |
| 572 | 614 247 8875 | BRACKET-E,FRONT SENSOR PWB |
| 573 | 614 253 7305 | SPRING,TORSION,UPPER |
| 574 | 614 247 9162 | BEARING,ROLLER SHAFT SUPPORT |
| 575 | 614 247 9339 | SPRING,TORSION,LOWER |
| 576 | 614 250 2662 | ASSY,ROLLER,FRONT,RIGHT |
| 577 | 614 247 8837 | COVER,FRONT SHUTTER |
| 578 | 614 254 8011 | ASSY,BRACKET-E,FRONT LED PWB |
| 579 | 614 051 9785 | LUG,GROUND |

| Ref. No. | Part No. | Description |
|---|---|---|
| 601 | 614 233 0227 | PLATE,CHUCK |
| 602 | 614 269 5739 | SPRING,WIRE,CHUCK LEVER |
| 603 | 614 247 9223 | LEVER,CHUCK |
| 604 | 614 262 8928 | MAGNET,CHUCK PRESSURE |
| 605 | 614 250 2648 | ASSY,PULLEY,CHUCK |
| 606 | 614 247 8950 | MOUNT-M,CD MECHANISM, CHUCK BRACKET |
| 607 | 614 247 8943 | MOUNT-M,CD MECHANISM HOLDER, FRONT |
| 608 | 614 247 8929 | BRACKET-M,CD MECHANISM HOLDER,REAR |
| 609 | 614 237 7031 | CUSHION,RUBBER,FLOAT SIDE, CD MECHANISM |
| 610 | 614 247 4907 | SPRING,COMP,FLOAT SIDE |
| 611 | 614 247 8851 | CHASSIS,SUB,CD MECHANISM HOLDER |
| 612 | 614 195 6978 | RUBBER CUSHION,FLOAT UP/DOWN |
| | 614 125 6443 | CUSHION,15X25X3MM,LEAD FIX |
| | 614 125 6443 | CUSHION,15X25X3MM, SHUTT MOTOR |
| Y501 | 412 003 1708 | SPECIAL SCREW,TOP BRACKET |
| Y502 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, DISC GUIDE UP FIX |
| Y503 | 411 025 1901 | SCR S-TPG PAN 2X3MM,LUG FIX |
| Y504 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, BRACKET-E |
| Y505 | 411 023 2801 | SCR S-TPG PAN 2.6X6MM, PLAY LED PWB |
| Y506 | 411 020 9407 | SCR S-TPG BRZ+FLG 3X14MM, TOP PANEL COVER |
| Y507 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM,LUG |
| Y508 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, MECHANISM SENSOR PWB |
| Y521 | 411 022 4608 | SCR S-TPG FLT 3X8MM,SHUTTER OPEN/CLOSE GEAR BRACKET |
| Y522 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, SHUTTER DRIVE GEAR |
| Y523 | 411 021 6405 | SCR S-TPG BIN 3X8MM, LAMP,LEFT,PWB |
| Y524 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, SHUTTER OPEN/CLOSE SWITCH |
| Y525 | 411 020 0701 | SCR PAN PCS 1.7X4MM, SHUTTER MOTOR FIX |
| Y526 | 411 020 8905 | SCR S-TPG BRZ+FLG 3X10MM, TOP PANEL COVER |
| Y531 | 411 022 8408 | SCR S-TPG PAN 2X8MM, MOUNT-MFIX |
| Y532 | 411 022 8408 | SCR S-TPG PAN 2X8MM, MOUNT-MFIX |
| Y533 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, CD MAIN PWB |
| Y534 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, BRACKET |
| Y535 | 411 020 8905 | SCR S-TPG BRZ+FLG 3X10MM, BRACKET |
| Y536 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, LEVER |
| Y541 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, SLIDE FIX |
| Y542 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, CHUCKING SWITCH PWB |
| Y543 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, DISC SLIDE |

## EXPLODED VIEW (CD CHANGER MECHANISM)



| Ref. No. | Part No. | Description |
|---|---|---|
| Y544 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, LOCK SLIDE SWITCH PWB |
| Y545 | 620 123 0772 | SPECIAL WASHER, 2.6X6X0.8MM,GEAR |
| Y546 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, DISC SLIDE |
| Y547 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8M, TURN TABLE INITIAL SWITCH PWB |
| Y548 | 411 023 2207 | SCR S-TPG PAN 2.6X4MM, DISC STOP SENSOR PWB |
| Y549 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, PWB BRACKET |
| Y550 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, FRONT LOADING/TURNTABLE/ CHUCKING/PLAY LOADING MOTOR |
| Y561 | 412 003 1708 | SPECIAL SCREW, DISC TABLE ROLLER |
| Y562 | 411 101 5007 | SCR S-TPG PAN 2X12MM, GEAR(548),BOSS |
| Y563 | 411 101 5007 | SCR S-TPG PAN 2X12MM, GEAR(547),BOSS |
| Y571 | 411 023 2801 | SCR S-TPG PAN 2.6X6MM, FRONT SENSOR PWB |
| Y572 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, FRONT SHUTTER COVER,UPPE |
| Y573 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, FRONT SHUTTER COVER,LOWE |
| Y574 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, FRONT BRACKET |
| Y575 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, FRONT BRACKET |
| Y576 | 411 023 2801 | SCR S-TPG PAN 2.6X6MM, FRONT LED PWB |
| Y601 | 411 022 7500 | SCR S-TPG PAN 2X4MM, CHUCK PLATE FIX |
| Y602 | 412 003 1708 | SPECIAL SCREW, CHUCK LEVER FIX |
| Y603 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8MM, BRACKET-M FIX |

## PLAY SENSOR P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 581 | 614 249 5766 | ASSY,PWB,PLAY SENSOR |
| D1836 | 407 159 6014 | PHOTO DIODE PT380F-TB |
| CN190 | 645 005 8226 | PLUG,3P |
| | 614 252 0956 | COVER,SENSOR |

## PLAY LED P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 582 | 614 249 5759 | ASSY,PWB,PLAY LED |
| D1837 | 408 018 8108 | LED,SRZ-935A-1-BC-T1 |
| CN191 | 645 006 0908 | PLUG,2P |
| | 614 252 0956 | COVER,SENSOR |

## MECHANISM SENSOR P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 583 | 614 267 2891 | ASSY,PWB,MECHANISM SENSOR |
| CN157 | 645 005 8226 | PLUG,3P |
| CN158 | 645 006 0908 | PLUG,2P |
| CN159 | 645 006 0908 | PLUG,2P |
| CN160 | 645 006 0953 | PLUG,8P |
| IC184 | ⚠409 207 7506 | IC MLC74HC14A |
| OR | ⚠409 162 5302 | IC HD74HC14P |
| IC185 | ⚠409 207 7506 | IC MLC74HC14A |
| OR | ⚠409 162 5302 | IC HD74HC14P |

## MOTOR DRIVER P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 584 | 614 267 2884 | ASSY,PWB,MOTOR DRIVER |
| CN150 | 645 005 7366 | PLUG,2P |
| CN151 | 645 006 0861 | PLUG,7P |
| CN152 | 645 005 8127 | PLUG,6P |
| CN153 | 645 005 8110 | PLUG,4P |
| CN154 | 645 005 7366 | PLUG,2P |
| CN155 | 645 005 7373 | PLUG,3P |
| CN156 | 614 227 7836 | SOCKET,32P |
| D1820 | 407 050 1009 | ZENER DIODE GZA3.3Y |
| D1821 | 407 050 0606 | ZENER DIODE GZA3.0X |
| D1822 | 407 050 1009 | ZENER DIODE GZA3.3Y |
| D1823 | 407 049 8507 | ZENER DIODE GZA2.2X |
| D1824 | 407 050 1009 | ZENER DIODE GZA3.3Y |
| IC181 | ⚠409 127 1400 | IC LB1648 |
| IC182 | ⚠409 127 1400 | IC LB1648 |
| IC183 | ⚠409 127 1400 | IC LB1648 |
| Q1810 | 405 001 9302 | TR 2SA1020-Y |
| Q1811 | 405 000 4407 | TR DTC124ES |
| or | 405 078 2800 | TR BA1F4M |
| or | 405 001 0309 | TR RN1203 |
| RA181 | 614 218 0464 | RESISTOR,100K OHM X 8 |
| or | 614 209 3696 | RESISTOR,100K OHM X 8 |

## LAMP, RIGHT P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 585 | 614 266 1598 | ASSY,PWB,LAMP,RIGHT |
| CN140 | 614 035 4911 | SOCKET,2P |
| or | 614 237 9752 | SOCKET,2P |
| CN141 | 614 035 4911 | SOCKET,2P |
| or | 614 237 9752 | SOCKET,2P |
| PL161 | 614 253 4687 | LAMP,8V 100MA |
| or | 614 255 8157 | LAMP,8V 100MA |

## LAMP, LEFT P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 586 | 614 266 1604 | ASSY,PWB,LAMP,LEFT |
| CN142 | 614 035 4911 | SOCKET,2P |
| or | 614 237 9752 | SOCKET,2P |
| PL162 | 614 253 4687 | LAMP,8V 100MA |
| or | 614 255 8157 | LAMP,8V 100MA |





## SHUTTER OPEN/CLOSE SWITCH P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 587 | 614 266 1659 | ASSY,PWB,SHUTTER OPEN/CLOSE SWITCH (N.S.P) |
| CN187 | 645 005 7373 | PLUG,3P,SIDE |
| D1808 | 407 012 4406 | DIODE 1SS133, CLOSE END SWITCH |
| or | 407 007 9904 | DIODE GMA01, CLOSE END SWITCH |
| or | 407 153 6109 | DIODE 1SS119-041, CLOSE END SWITCH |
| D1809 | 407 012 4406 | DIODE 1SS133, CLOSE END SWITCH |
| or | 407 007 9904 | DIODE GMA01, CLOSE END SWITCH |
| or | 407 153 6109 | DIODE 1SS119-041, CLOSE END SWITCH |
| S1808 | 614 249 1355 | SWITCH,LEVER, SHUTTER CLOSE END |
| S1809 | 614 249 1355 | SWITCH,LEVER, SHUTTER OPEN END |

## CD MAIN P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 588 | 614 272 6518 | ASSY,PWB,CD MAIN |
| | 614 117 1098 | SHIELD PLATE |
| C1113 | 403 154 2102 | NP-ELECT 1U M 50V |
| CN101 | 645 007 1058 | SOCKET,13P |
| CN102 | 645 005 8127 | PLUG,6P |
| CN103 | 614 227 7959 | SOCKET,15P |
| CN104 | 645 005 7366 | PLUG,2P |
| CN105 | 645 005 8110 | PLUG,4P |
| CN106 | 645 005 8110 | PLUG,4P |
| CN107 | 645 005 7373 | PLUG,3P |
| D1101 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| or | 407 012 5809 | DIODE 1SS176 |
| D1102 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| or | 407 012 5809 | DIODE 1SS176 |
| D1401 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| or | 407 012 5809 | DIODE 1SS176 |
| D1402 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| or | 407 012 5809 | DIODE 1SS176 |
| D1403 | 407 005 4505 | DIODE DS442X |
| IC101 | 409 313 5205 | IC LA9220M |
| IC102 | 409 317 8509 | IC BA6398FP |
| IC104 | 409 331 4006 | IC LC7861KE |
| IC105 | 409 284 5808 | IC SM5871AS |
| IC106 | 409 228 9206 | IC NJM2100M |
| IC151 | ⚠409 039 9204 | IC NJM78L05A |
| L1401 | 614 028 6748 | FILTER,10UH,160MA |
| L1511 | 614 212 3171 | INDUCTOR,FERITE |
| OR | 645 006 9864 | INDUCTOR,80U |
| Q1101 | 405 006 1905 | TR 2SA933S-S |
| or | 405 006 1806 | TR 2SA933S-R |
| or | 405 002 1305 | TR 2SA1048-Y |
| or | 405 002 1107 | TR 2SA1048-GR |
| or | 405 057 7604 | TR 2SA1175-FF |
| or | 405 002 5402 | TR 2SA1175-EF |
| Q1103 | 405 000 4407 | TR DTC124ES |
| or | 405 078 2800 | TR BA1F4M |
| or | 405 001 0309 | TR RN1203 |
| Q1201 | 405 001 9302 | TR 2SA1020-Y |
| Q1504 | 405 001 9302 | TR 2SA1020-Y |
| Q1505 | 405 000 4407 | TR DTC124ES |
| or | 405 078 2800 | TR BA1F4M |
| or | 405 001 0309 | TR RN1203 |
| X1401 | 645 011 3680 | OSC,CRYSTAL 16934.4KHZ |

## CHUCKING SWITCH P.W.BOARD ASSY

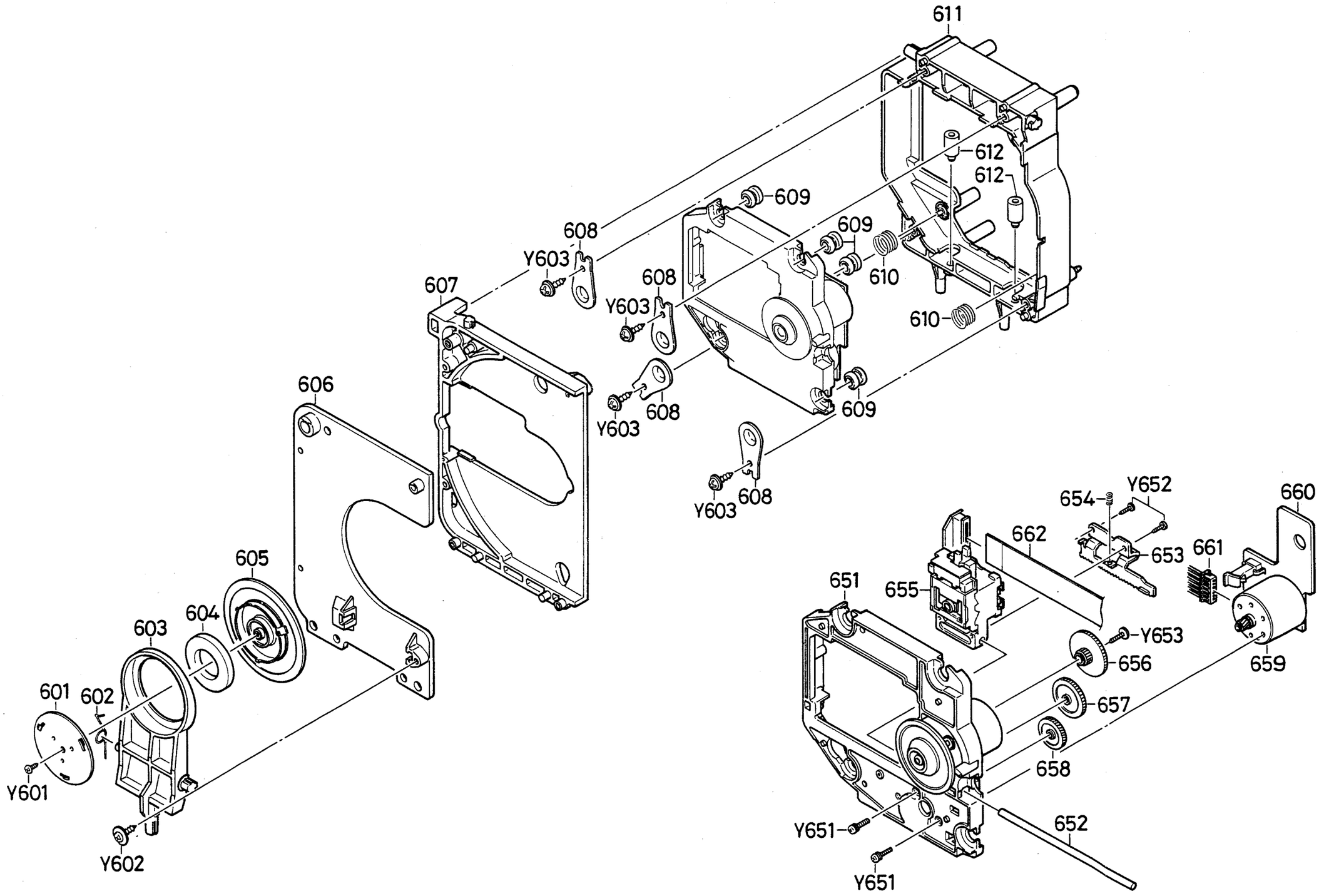
| Ref. No. | Part No. | Description |
|---|---|---|
| 589 | 614 266 1611 | ASSY,PWB,CHUCKING SWITCH |
| CN181 | 645 006 0861 | PLUG,7P |
| CN182 | 645 005 8110 | PLUG,4P |
| D1801 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| or | 407 153 6109 | DIODE 1SS119-041 |
| D1802 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| or | 407 153 6109 | DIODE 1SS119-041 |
| S1801 | 614 249 1355 | SWITCH,LEVER,CHUCKING OFF |
| S1802 | 614 249 1355 | SWITCH,LEVER,CHUCKING ON |

## LOCK SLIDE SWITCH P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 590 | 614 269 6460 | ASSY,PWB,LOCK SLIDE SWITCH |
| CN183 | 645 006 0939 | PLUG,6P,SIDE |
| CN184 | 645 005 8226 | PLUG,3P,SENSOR |
| D1804 | 407 012 4406 | DIODE 1SS133,FRONT RESET SWITCH |
| or | 407 007 9904 | DIODE GMA01,FRONT RESET SWITCH |
| or | 407 153 6109 | DIODE 1SS119-041,FRONT RESET SWITCH |
| D1805 | 407 012 4406 | DIODE 1SS133,PLAY RESET SWITCH |
| or | 407 007 9904 | DIODE GMA01,PLAY RESET SWITCH |
| or | 407 153 6109 | DIODE 1SS119-041,PLAY RESET SWITCH |
| S1804 | 614 249 1355 | SWITCH,LEVER,DISC SLIDE RESET (F) |
| S1805 | 614 249 1355 | SWITCH,LEVER,DISC SLIDE RESET (P) |

## TURNTABLE INITIAL SWITCH P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 591 | 614 266 1642 | ASSY,PWB,TURNTABLE INITIAL SWITCH |
| CN186 | 645 005 7366 | PLUG,2P,SIDE PWB |
| D1807 | 407 012 4406 | DIODE 1SS133,RESET SWITCH |
| or | 407 007 9904 | DIODE GMA01,RESET SWITCH |
| or | 407 153 6109 | DIODE 1SS119-041,RESET SWITCH |
| S1807 | 614 250 0101 | SWITCH,LEVER,POSITION DETECT |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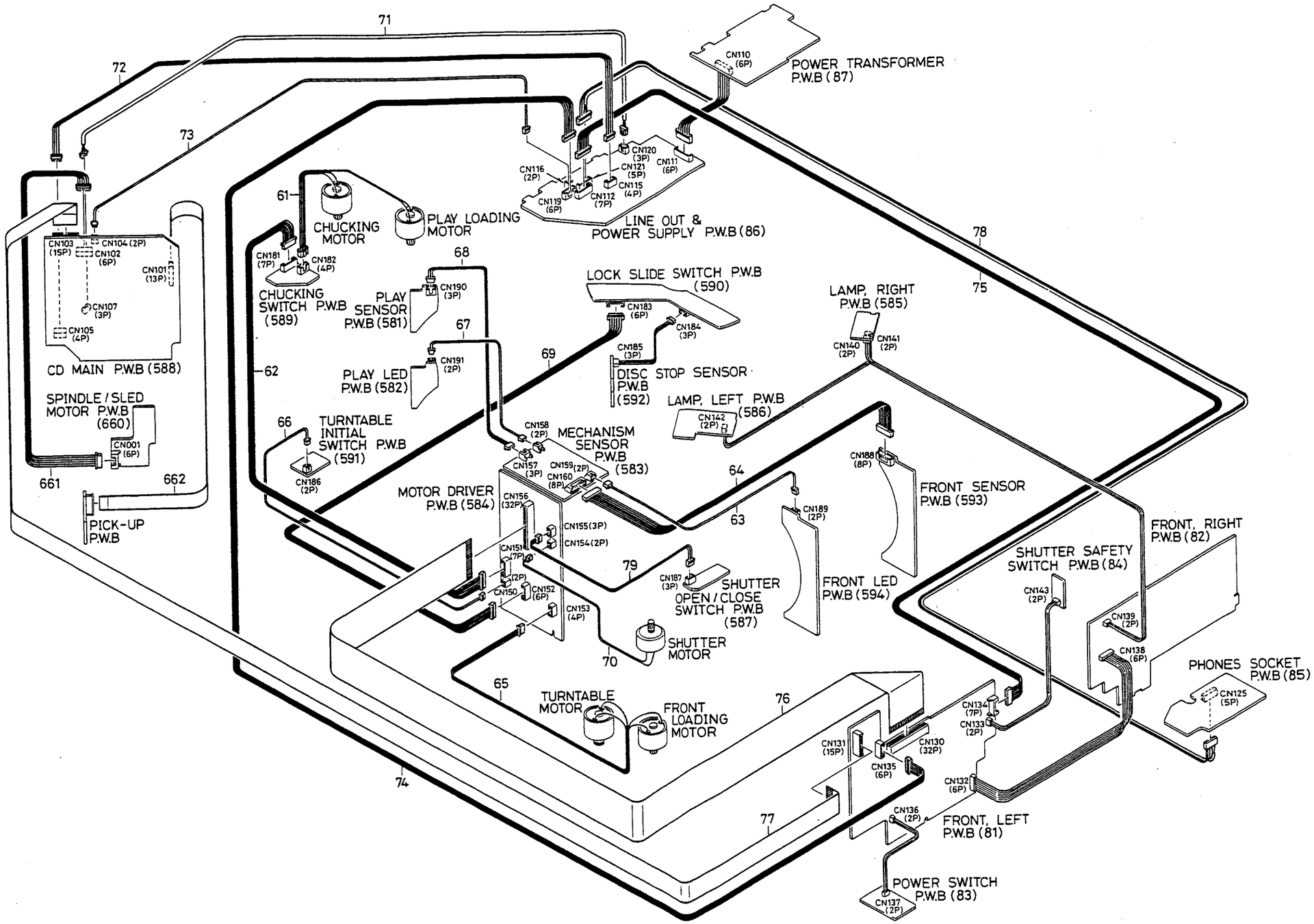
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CN110 (6P)
POWER TRANSFORMER P.W.B (87)
CN120 (3P)
CN111 (6P)
CN121 (5P)
CN116 (2P)
CN115 (4P)
CN119 (6P)
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CN181 (7P)
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CN140 (2P)
CN141 (2P)
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CN191 (2P)
PLAY LED P.W.B (582)
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CN185 (3P)
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LAMP, LEFT P.W.B (586)
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CN103 (15P)
CN104 (2P)
CN102 (6P)
CN101 (13P)
CN107 (3P)
CN105 (4P)
CD MAIN P.W.B (588)
SPINDLE / SLED MOTOR P.W.B (660)
CN001 (6P)
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662
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TURNTABLE INITIAL SWITCH P.W.B (591)
CN186 (2P)
CN158 (2P)
MECHANISM SENSOR P.W.B (583)
CN157 (3P)
CN159 (2P)
CN160 (8P)
MOTOR DRIVER P.W.B (584)
CN156 (32P)
CN155 (3P)
CN154 (2P)
64
63
CN188 (8P)
FRONT SENSOR P.W.B (593)
CN189 (2P)
FRONT, RIGHT P.W.B (82)
SHUTTER SAFETY SWITCH P.W.B (84)
CN143 (2P)
CN139 (2P)
CN138 (6P)
PHONES SOCKET P.W.B (85)
CN125 (5P)
CN151 (7P)
CN150 (2P)
CN152 (6P)
CN153 (4P)
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CN187 (3P)
SHUTTER OPEN / CLOSE SWITCH P.W.B (587)
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SHUTTER MOTOR
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TURNTABLE MOTOR
FRONT LOADING MOTOR
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CN133 (2P)
CN131 (15P)
CN130 (32P)
CN135 (6P)
CN132 (6P)
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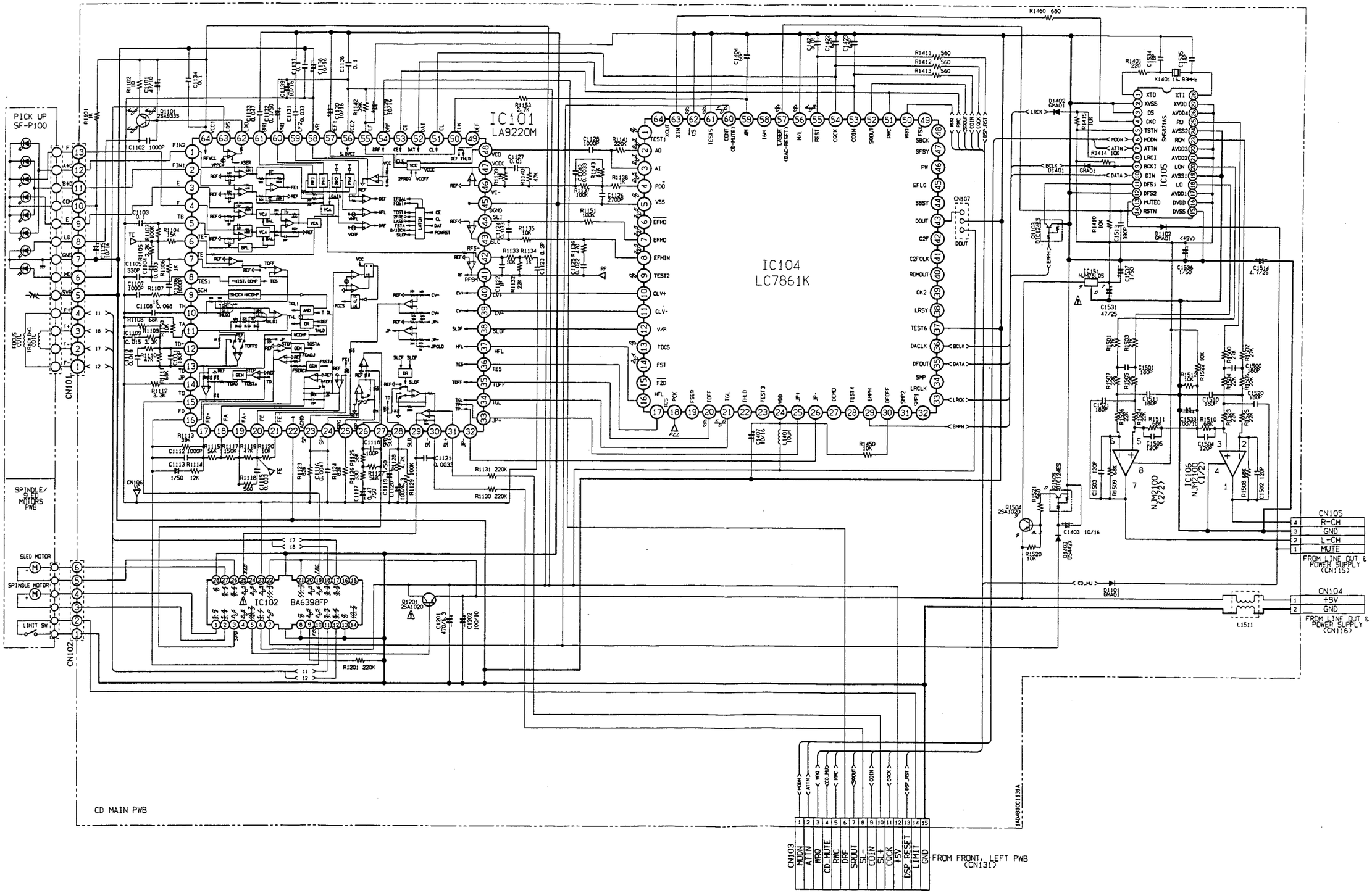
CN136 (2P)
FRONT, LEFT P.W.B (81)
POWER SWITCH P.W.B (83)
CN137 (2P)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IC106
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SF-P100
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CN102
CN103
CN104
CN105
CN106
CN107
SPINDLE/
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SLED MOTOR
SPINDLE MOTOR
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GND
L-CH
MUTE
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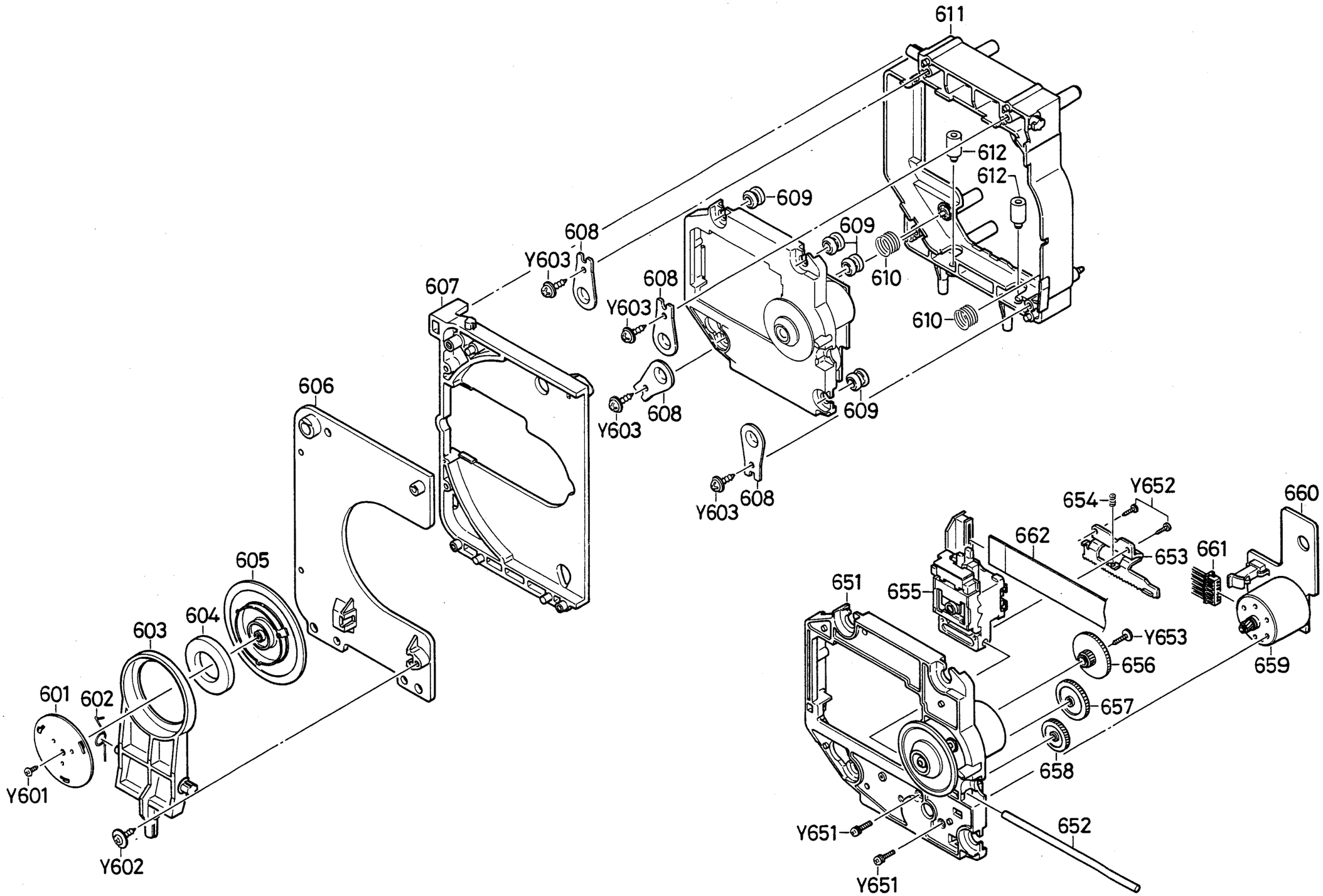
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## PARTS LIST

### DISC STOP SENSOR P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 592 | 614 266 1635 | ASSY,PWB,DISC STOP SENSOR |
| CN185 | 614 224 9932 | ASSY,CONNECTOR-S,3P |
| OR | 614 271 8162 | ASSY,CONNECTOR-S,3P |
| D1818 | 407 137 8006 | PHOTO COUPLE GP1A53HR |
| R1801 | 401 026 9600 | CARBON 470 JA 1/6W |

### FRONT SENSOR P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 593 | 614 249 5742 | ASSY,PWB,FRONT SENSOR |
| | 614 252 0956 | COVER,SENSOR |
| CN188 | 645 006 0953 | PLUG,8P |
| D1830 | 407 159 6004 | PHOTO DIODE PT380F, DISC CHECK |
| D1831 | 407 159 6004 | PHOTO DIODE PT380F, DISC CHECK |
| D1832 | 407 159 6004 | PHOTO DIODE PT380F, DISC CHECK |
| D1833 | 407 159 6004 | PHOTO DIODE PT380F, DISC CHECK |
| D1834 | 407 159 6004 | PHOTO DIODE PT380F, DISC CHECK |
| D1835 | 407 159 6004 | PHOTO DIODE PT380F, DISC CHECK |

### FRONT LED P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 594 | 614 249 5735 | ASSY,PWB,FRONT LED |
| | 614 252 0956 | COVER,SENSOR |
| CN189 | 645 006 0908 | PLUG,2P,FRONT LED PWB |
| D1810 | 408 018 8108 | LED SRZ-935A-1-BC-T1 |
| D1811 | 408 018 8108 | LED SRZ-935A-1-BC-T1 |
| D1812 | 408 018 8108 | LED SRZ-935A-1-BC-T1 |
| D1813 | 408 018 8108 | LED SRZ-935A-1-BC-T1 |
| D1814 | 408 018 8108 | LED SRZ-935A-1-BC-T1 |
| D1815 | 408 018 8108 | LED SRZ-935A-1-BC-T1 |

### CD MECHANISM (CDBM94D2SP) ... (N.S.P)

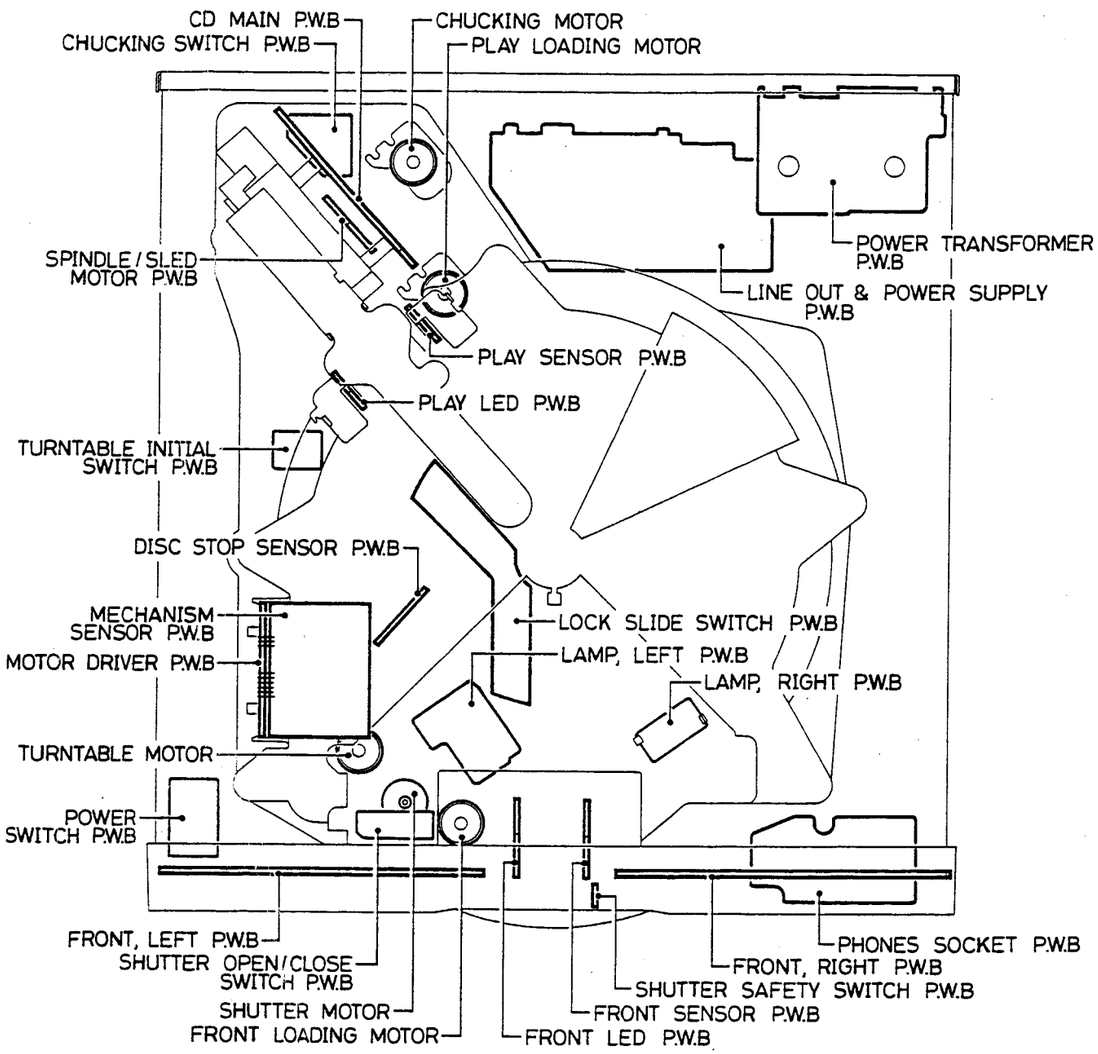
| Ref. No. | Part No. | Description |
|---|---|---|
| 651 | 614 267 0408 | ASSY,CHASSIS,BASE MECHANISM |
| 652 | 614 237 7024 | SHAFT,PICKUP RAIL |
| 653 | 614 262 2599 | GEAR,RACK,PICKUP |
| 654 | 614 238 6934 | SPRING,COMP,PICKUP RACK GEAR |
| 655 | 645 006 7983 | PICKUP,LASER SF-P100 |
| 656 | 614 237 7116 | GEAR,SLED GEAR |
| 657 | 614 237 7109 | GEAR,SLED,RETARD 2 |
| 658 | 614 237 7093 | GEAR,SLED,RETARD 1 |
| 659 | 645 007 7814 | ASSY,MOTOR,SLED MOTOR |
| 661 | 614 253 5295 | ASSY,CONNECTOR-S,6P,MOTOR |
| OR | 614 273 9570 | ASSY,CONNECTOR-S,6P,MOTOR |
| 662 | 645 009 9953 | FLEXIBLE FLAT CABLE,13P, PICKUP |
| Y651 | 411 044 8004 | SCR PAN+SW 2X8MM, SLED MOTOR FIX |
| Y652 | 411 152 4301 | SCR S-TPG PAN PCS 1.7X6MM, PICK RACK GEAR FIX |
| Y653 | 412 047 3904 | SPECIAL SCREW,SLED GEAR FIX |

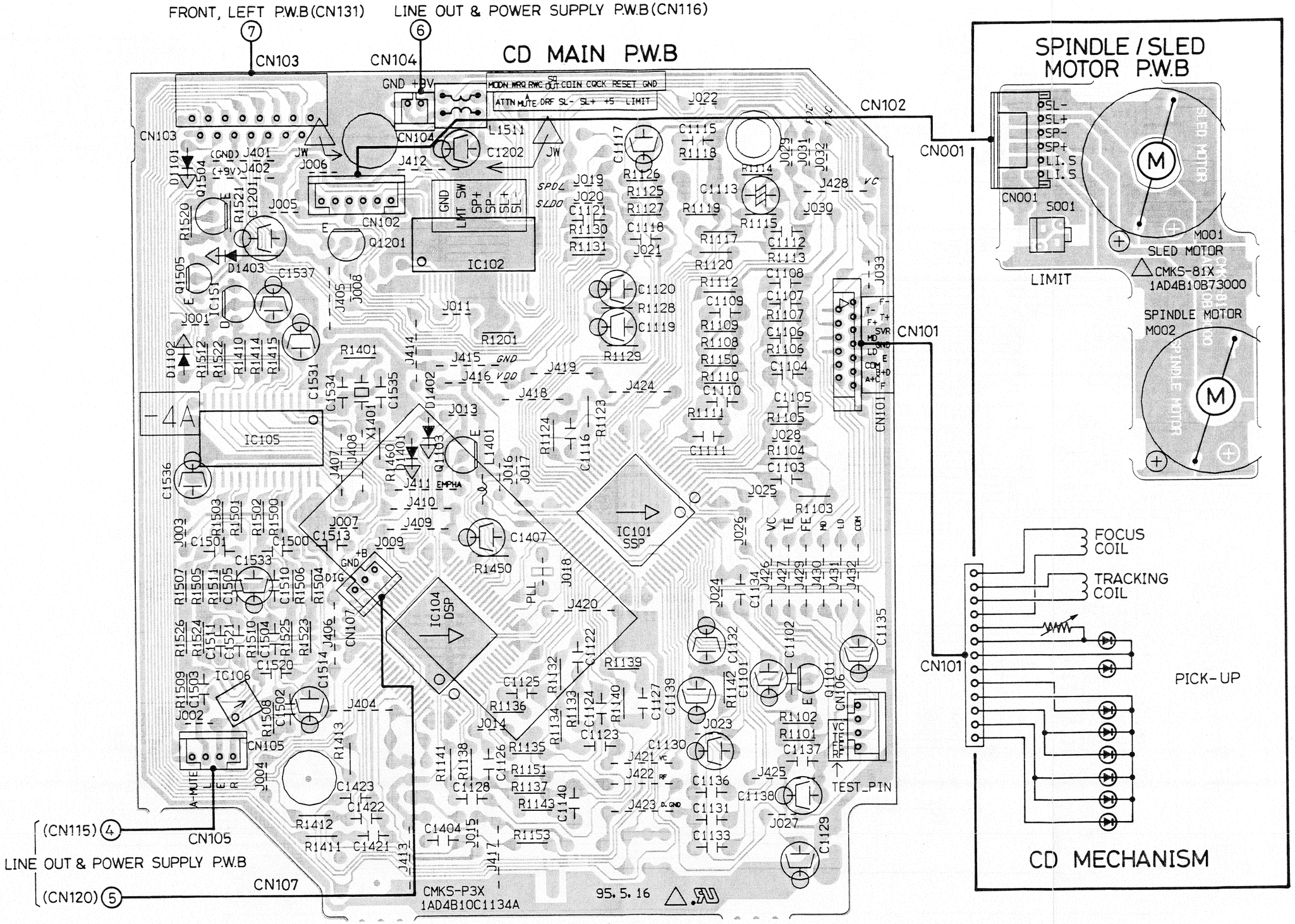
### SPINDLE / SLED MOTOR P.W.BOARD ASSY

| Ref. No. | Part No. | Description |
|---|---|---|
| 660 | 614 251 6485 | ASSY,PWB,SPINDLE/SLED MOTOR |
| CN001 | 645 006 0939 | PLUG,6P,MOTOR CONNECTOR |
| OR | 645 009 6464 | PLUG,6P,MOTOR CONNECTOR |
| S001 | 614 231 4005 | SWITCH,LEAF,LIMIT |

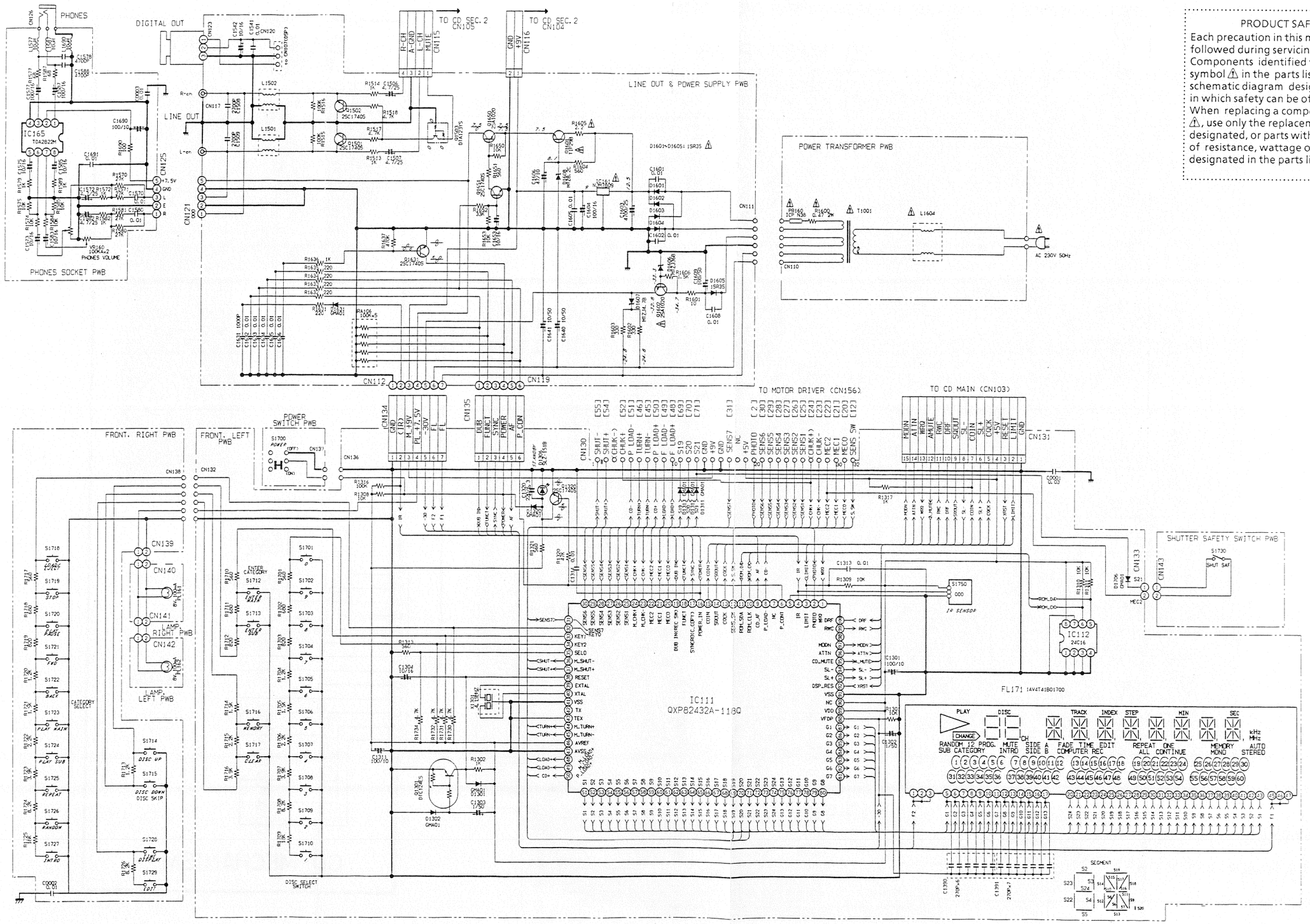


## MOTOR & P.W.BOARD LAYOUT



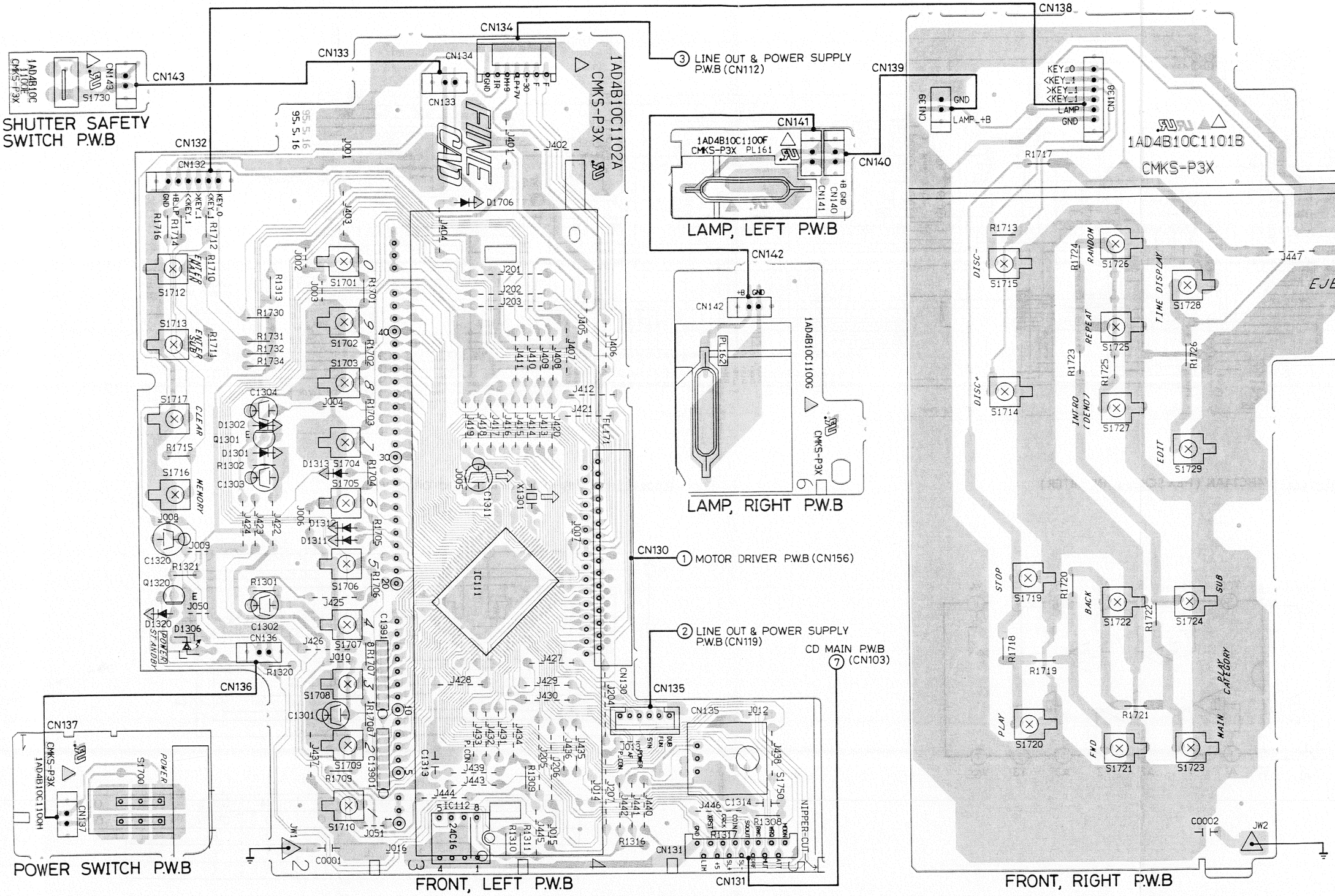

FRONT, LEFT P.W.B(CN131)
LINE OUT & POWER SUPPLY P.W.B(CN116)
CD MAIN P.W.B
CN103
CN104
CN102
CN101
CN105
CN107
IC102
IC101 SSP
IC104 DSP
IC105
IC106
SPINDLE / SLED MOTOR P.W.B
SLED MOTOR
M001
CMKS-81X
1AD4B10B73000
SPINDLE MOTOR
M002
LIMIT
FOCUS COIL
TRACKING COIL
PICK-UP
CD MECHANISM
(CN115) 4
LINE OUT & POWER SUPPLY P.W.B
(CN120) 5
CMKS-P3X
1AD4B10C1134A
95. 5. 16
TEST_PIN

## SCHEMATIC DIAGRAM ( SYSTEM CONTROL,OPERATING SWITCH & POWER )

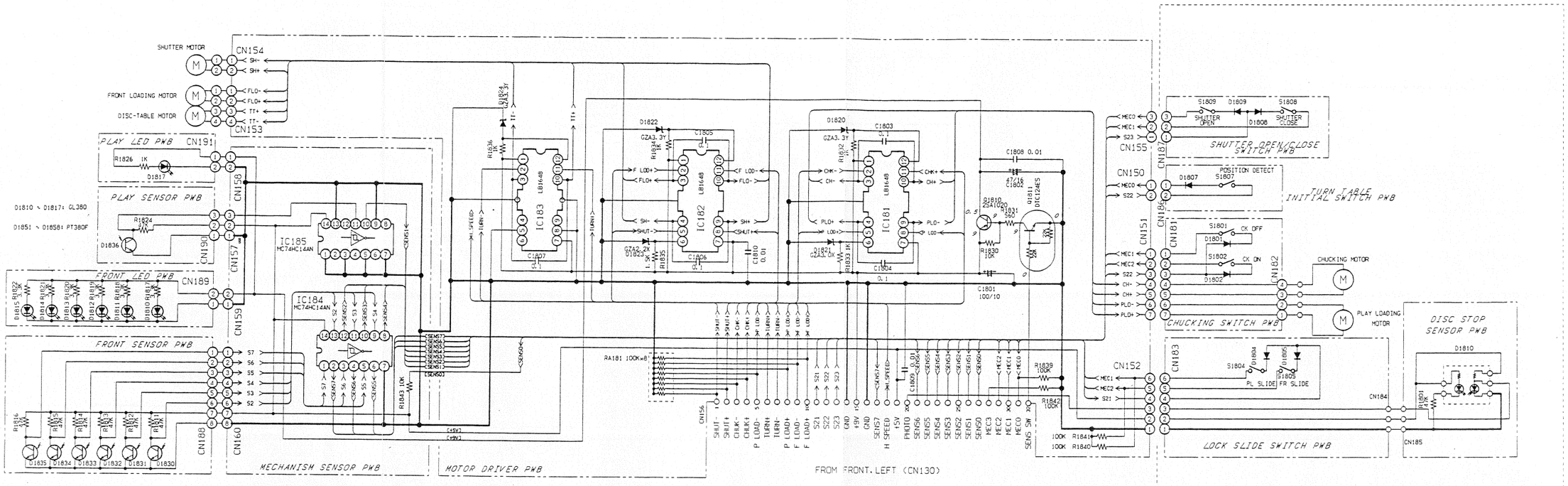



PRODUCT SAFETY NOTICE

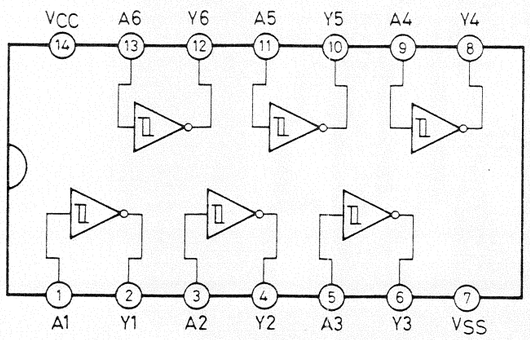
Each precaution in this manual should be followed during servicing.
Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance.
When replacing a component identified ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.


SHUTTER SAFETY SWITCH P.W.B
1AD4B10C1101F CMKS-P3X
CN143
S1730
CN143
CN133
CN134
CN132
CN132
1AD4B10C1102A CMKS-P3X
FINE CAD
95. 5. 16
J001
J401
J402
D1706
J403
J404
J201
J202
J203
J405
J406
J407
J408
J409
J410
J411
J412
J421
FL171
J419
J418
J417
J416
J415
J414
J413
J420
J005
C1311
X1301
10H
IC111
J007
J006
J425
J426
J427
J428
J429
J430
J431
J432
J433
J434
J435
J436
J437
J439
J443
J444
J445
J015
J016
J051
J010
J204
J205
J206
J207
J014
J012
CN130
CN135
CN135
CN136
CN136
R1320
C1391
C13901
C1313
IC112
24C16
R1309
R1310
R1311
R1316
C1314
R1308
R1317
S1750
J446
J440
J441
J442
CN131
CN131
NIPPER-CUT
C0001
JW1
CN137
CN137
1AD4B10C1101CH CMKS-P3X
POWER
S1700
POWER SWITCH P.W.B
FRONT, LEFT P.W.B
3 LINE OUT & POWER SUPPLY P.W.B (CN112)
CN141
1AD4B10C1100F CMKS-P3X PL161
CN140
LAMP, LEFT P.W.B
CN142
CN142
1AD4B10C1100G CMKS-P3X
PL162
LAMP, RIGHT P.W.B
1 MOTOR DRIVER P.W.B (CN156)
2 LINE OUT & POWER SUPPLY P.W.B (CN119)
CD MAIN P.W.B 7 (CN103)
CN138
CN139
CN139
GND
LAMP_+B
KEY_0
<KEY_1
>KEY_1
<<KEY_1
LAMP
GND
CN138
1AD4B10C1101B
CMKS-P3X
R1717
R1713
S1715
S1714
R1724
RANDOM
S1726
REPEAT
S1725
R1723
R1725
INTRO (DEMO)
S1727
TIME DISPLAY
S1728
R1726
EDIT
S1729
J447
S1718
EJECT
STOP
S1719
R1720
BACK
S1722
R1722
SUB
S1724
R1718
R1719
PLAY
S1720
R1721
FWD
S1721
MAIN
S1723
PLAY CATEGORY
C0002
JW2
FRONT, RIGHT P.W.B

## SCHEMATIC DIAGRAM ( MECHANISM CONTROL )

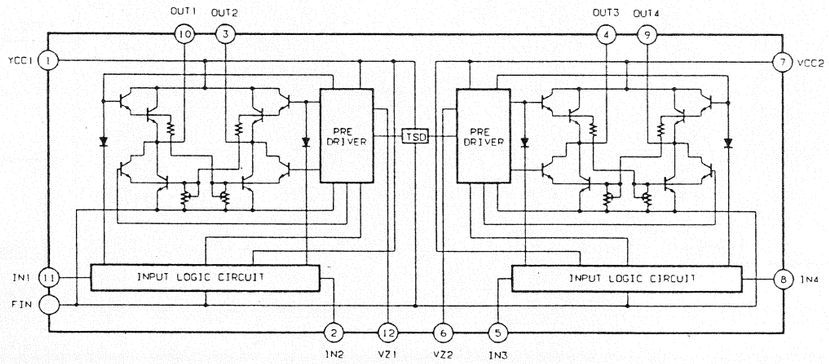



### IC184,IC185 MC74HC14AN ( HEX SCHMITT INVERTER )

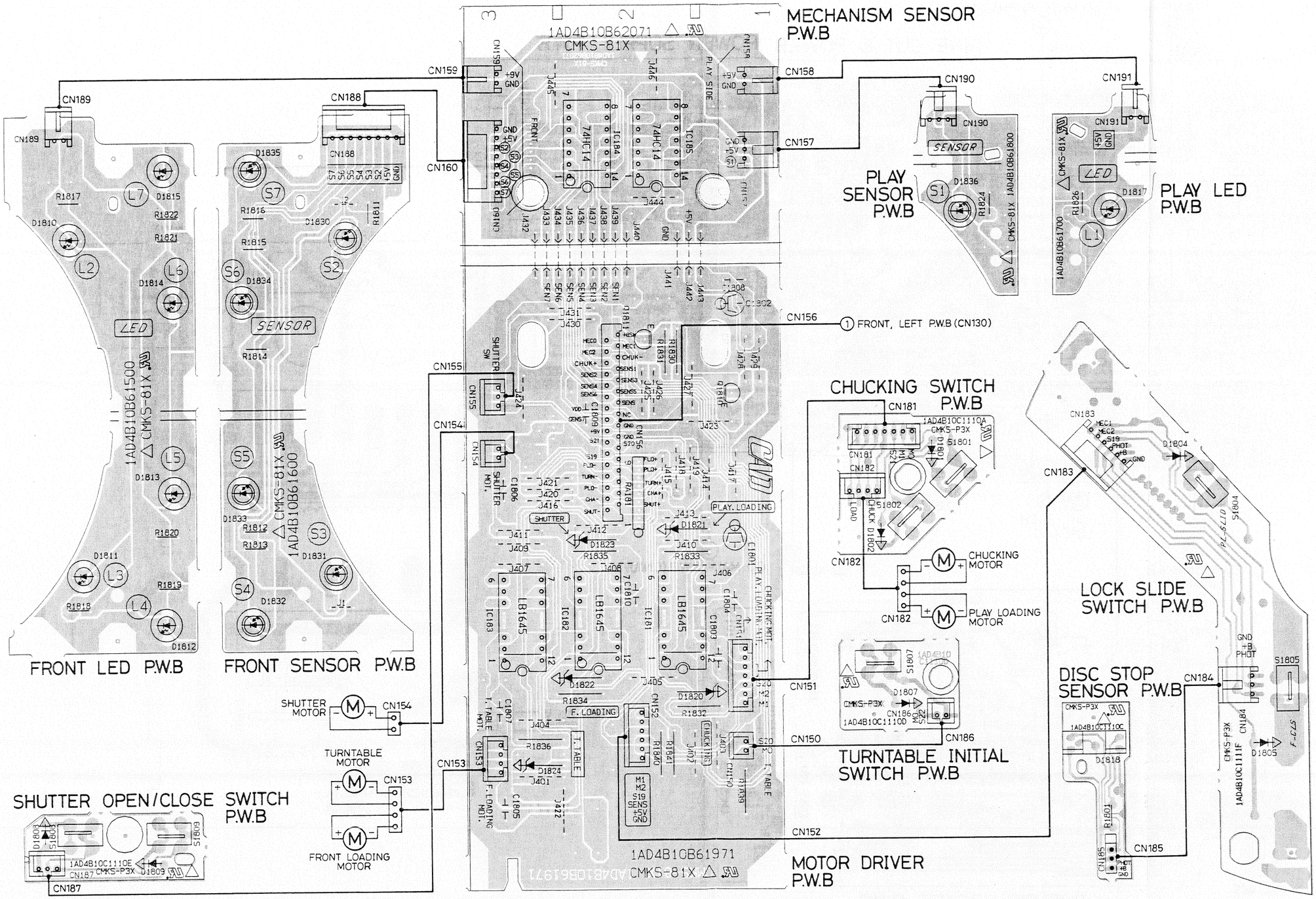


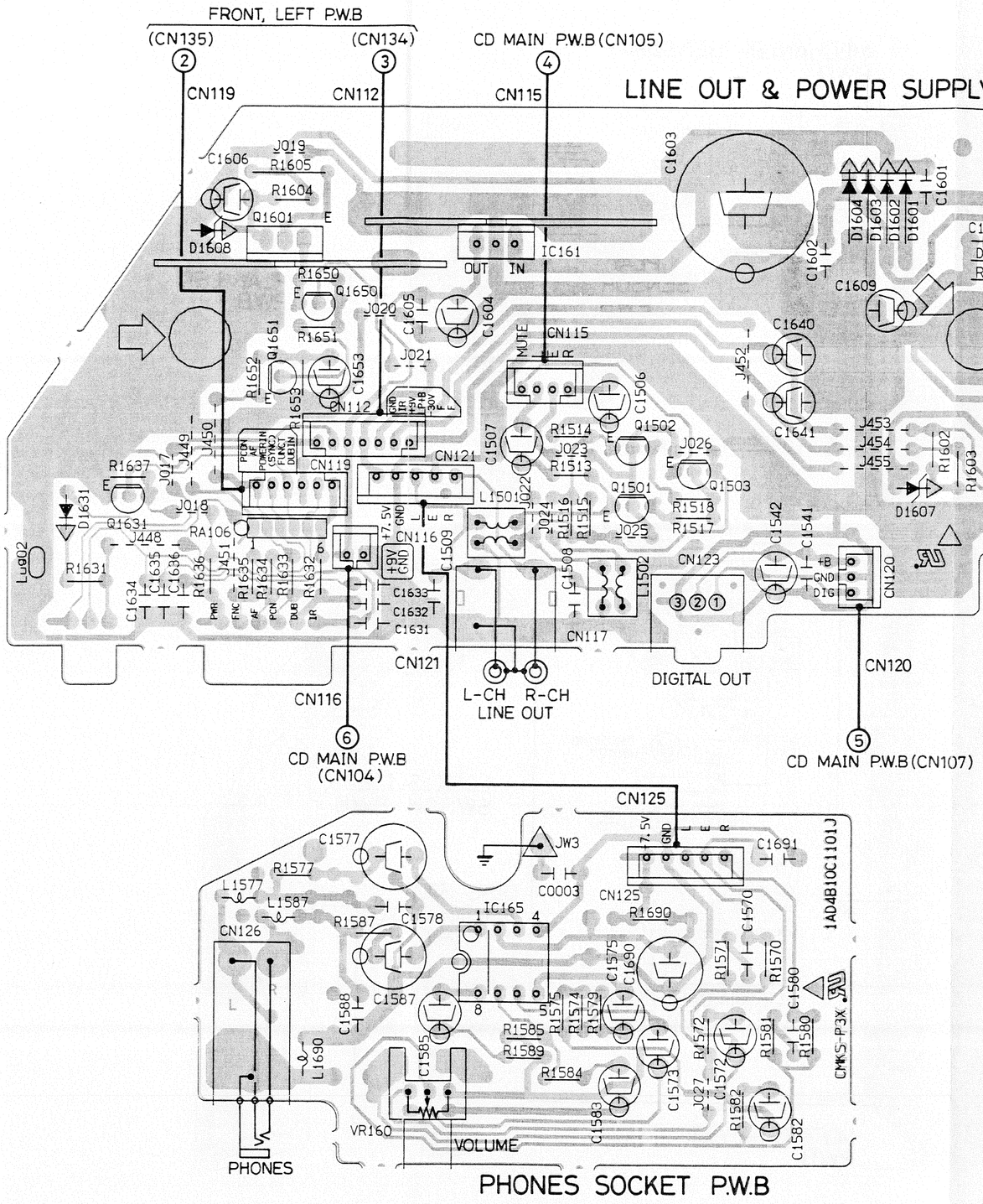


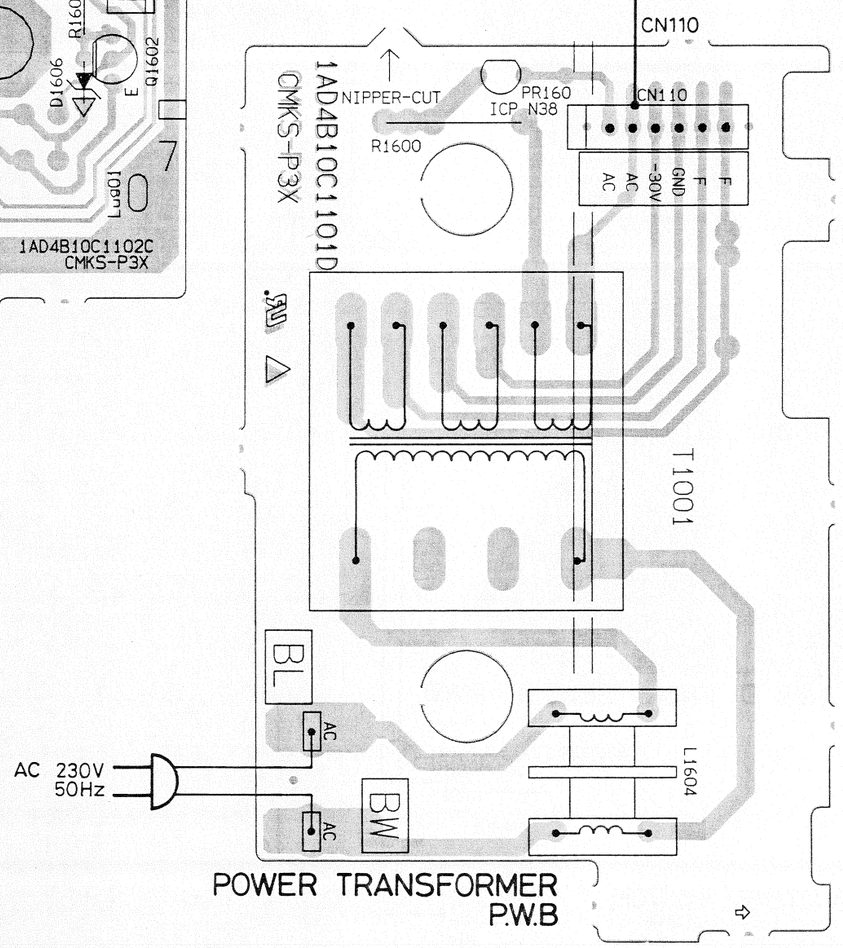

### IC181~IC183 LB1648 (MOTOR DRIVER)




| IN1 | IN2 | OUT1 | OUT2 | IN3 | IN4 | OUT3 | OUT4 |
|---|---|---|---|---|---|---|---|
| 0 | 0 | OPEN | OPEN | 0 | 0 | OPEN | OPEN |
| 1 | 0 | H | L | 1 | 0 | H | L |
| 0 | 1 | L | H | 0 | 1 | L | H |
| 1 | 1 | L | L | 1 | 1 | L | L |


MECHANISM SENSOR P.W.B
1AD4B10B62071
CMKS-81X
CN159
CN158
CN157
CN160
CN156
CN155
CN154
CN153
CN151
CN150
CN152
CN188
CN189
CN190
CN191
PLAY SENSOR P.W.B
PLAY LED P.W.B
FRONT LED P.W.B
FRONT SENSOR P.W.B
SHUTTER OPEN/CLOSE SWITCH P.W.B
SHUTTER MOTOR
TURNTABLE MOTOR
FRONT LOADING MOTOR
CHUCKING SWITCH P.W.B
CHUCKING MOTOR
PLAY LOADING MOTOR
TURNTABLE INITIAL SWITCH P.W.B
MOTOR DRIVER P.W.B
LOCK SLIDE SWITCH P.W.B
DISC STOP SENSOR P.W.B
1 FRONT, LEFT P.W.B (CN130)
1AD4B10B61971
CMKS-81X


FRONT, LEFT P.W.B
(CN135)
(CN134)
CD MAIN P.W.B(CN105)
CN119
CN112
CN115
LINE OUT & POWER SUPPLY P.W.B
IC161
OUT
IN
CN111
CN121
CN116
CN123
CN120
CN117
L-CH R-CH
LINE OUT
DIGITAL OUT
CD MAIN P.W.B
(CN104)
CD MAIN P.W.B(CN107)
CN125
CN126
PHONES
VR160
VOLUME
PHONES SOCKET P.W.B
1AD4B10C1102C
CMKS-P3X
1AD4B10C1101J
CMKS-P3X


1AD4B10C1101D
CMKS-P3X
NIPPER-CUT
PR160
ICP N38
CN110
CN111
R1600
T1001
L1604
BL
BW
AC
AC 230V
50Hz
POWER TRANSFORMER
P.W.B

## IC BLOCK DIAGRAM & DESCRIPTION

### IC101 LA9220M ( SERVO SIGNAL PROCESSOR )

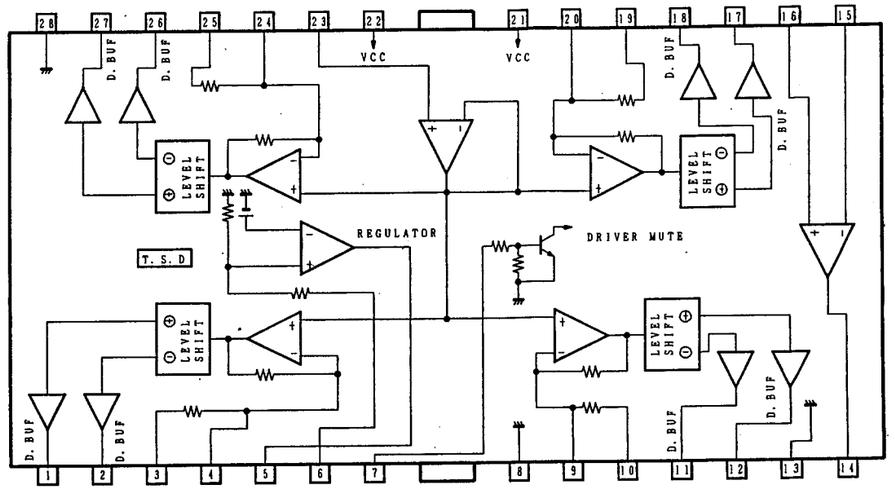
| No. | PIN NAME | I / O | DESCRIPTION |
|---|---|---|---|
| 1 | FIN2 | I | Connection Pin for Photo Diode of Pickup. |
| 2 | FIN1 | I | FIN2 + FIN1 = RF, FIN2-FIN1 = FE |
| 3 | E | I | Connection Pin for Photo Diode of Pickup. |
| 4 | F | I | E-F = TE |
| 5 | TB | I | Input Pin for DC ingredient of TE Signal. |
| 6 | TE- | I | Connection Pin for Gain Setting Resistor of TE Signal to TE Signal pin. |
| 7 | TE | O | Output Pin for Tracking Error Signal . |
| 8 | TESI | I | Input Pin for Track Error Sense Comparator. TE Signal through Band pass, and Inputted. |
| 9 | SCI | I | Input Pin for Shock Detection. |
| 10 | TH | I | Connection Pin for Time Constant Setting of Tracking Gain. |
| 11 | TA | O | Output Pin for TA Amplifier. |
| 12 | TD- | I | Connection Pin for Constant of Tracking Phase Compensation, Consist of between TD and VR. |
| 13 | TD | I | Connection Pin for Constant of Tracking Phase Compensation. |
| 14 | JP | I | Connection Pin for Amplitude Setting of Tracking Jump (Kick Pulse) Signal. |
| 15 | TO | O | Output Pin for Tracking Control Signal. |
| 16 | FD | O | Output Pin for Focusing Control Signal. |
| 17 | FD- | I | Connection Pin for Constant of Focusing Phase Compensation, Consist of between FD and FA. |
| 18 | FA + | I | Connection Pin for Constant of Focusing Phase Compensation, Consist of between FD- and FA-. |
| 19 | FA- | I | Connection Pin for Constant of Focusing Phase Compensation, Consist of between FA and FE. |
| 20 | FE | O | Output Pin for Focusing Error Signal . |
| 21 | FE- | I | Connection Pin for Gain Setting Resistor of FE Signal to FE Signal pin. |
| 22 | AGND | - | Ground for Analog Signal. |
| 23 | SP | O | Output Pin for Single End of Input Signal of the CV + , CV- Pin. |
| 24 | SPI | I | Input Pin for Spindle Amplifier. |
| 25 | SPG | I | Connection Pin for Gain Setting Resistor, when Spindle 12 cm Mode. |
| 26 | SP- | I | Connection Pin for Constant of Spindle Phase Compensation with SPD Pin. |
| 27 | SPD | O | Output Pin for Spindle Control Signal. |
| 28 | SLEQ | I | Connection Pin for Constant of Sled Phase Compensation. |
| 29 | SLD | O | Output Pin for Sled Control Signal. |
| 30 | SL- | I | Input Pin for Sled Signal from Micro Processor. |
| 31 | SL + | I | |
| 32 | JP- | I | Input Pin for Tracking Jump Signal from Digital |
| 33 | JP + | I | Signal Processor. |
| 34 | TGL | I | Input Pin for Tracking Gain Control Signal from Digital Signal Processor. TGL = H: Gain Low |

| No. | PIN NAME | I / O | DESCRIPTION |
|---|---|---|---|
| 35 | TOFF | I | Input Pin for Tracking Off Control Signal from Digital Signal Processor. TOFF = H: Off |
| 36 | TES | O | Output Pin for Track Error Sense Signal to Digital Signal Processor. |
| 37 | HFL | I | High Frequency Level Signal use Detection Main-Beam Position is on the pit or mirror. |
| 38 | SLOF | I | Input Pin for Sled Servo Off Control. |
| 39 | CV- | I | Input Pin for Constant Linear Velocity |
| 40 | CV + | I | Error Signal from Digital Signal Processor. |
| 41 | RFSM | O | Output Pin for RF Signal. |
| 42 | RFS- | I | Connection Pin for Gain Setting of RF and Constant Setting of 3T Compensation of the EFM Signal with RFSM Pin. |
| 43 | SLC | O | Slice Level Control Signal is Output Pin, It Control Level of Data-Slice by Digital Signal Processor of the RF Waveform. |
| 44 | SLI | I | Input Pin for Level Control of Data-Slice by Digital Signal Processor. |
| 45 | DGND | - | Ground for Digital Signal. |
| 46 | VC- | I | Input Pin For VCO Control Amplifier, Consist of PLL Loop Filter with VCOC and PDO of Digital Signal Processor. |
| 47 | VCOC | O | Output Pin for VCO Control Signal. |
| 48 | VCO | O | Output Pin for VCO Signal. |
| 49 | DEF | O | Output Pin for Defect Detection of Disc. |
| 50 | CLK | I | Input Pin for Reference Clock Pulse, Input 4.23 MHz of Digital Signal Processor. |
| 51 | CL | I | Input Pin of Clock Pulse for Command from Micro Processor. |
| 52 | DAT | I | Input Pin of Data for Command from Micro Processor. |
| 53 | CE | I | Input Pin of Chip Enable for Command from Micro Processor. |
| 54 | DRF | O | Detect RF Signal is Output Pin for RF Level Detection. |
| 55 | LF | I | Connection Pin for Adjusting of VCO Free-run. |
| 56 | VCC2 | - | VCC for Servo and Digital Root. |
| 57 | REFI | I | Bus Control Connection Pin for Reference Voltage. |
| 58 | VR | O | Output Pin for Reference Voltage. |
| 59 | LF2 | I | Connection Pin for Time Constant Setting of Defect Detection of the Disc. |
| 60 | PH1 | 1 | Capacitor Connection Pin for Peak-hold of RF Signal. |
| 61 | BH1 | I | Capacitor Connection Pin for Bottom-hold of RF Signal. |
| 62 | LDD | O | Output Pin of APC (Automatic Power Control) Circuit. |
| 63 | LDS | I | Input Pin of APC (Automatic Power Control) Circuit. |
| 64 | VCC1 | I | VCC for RF Root |



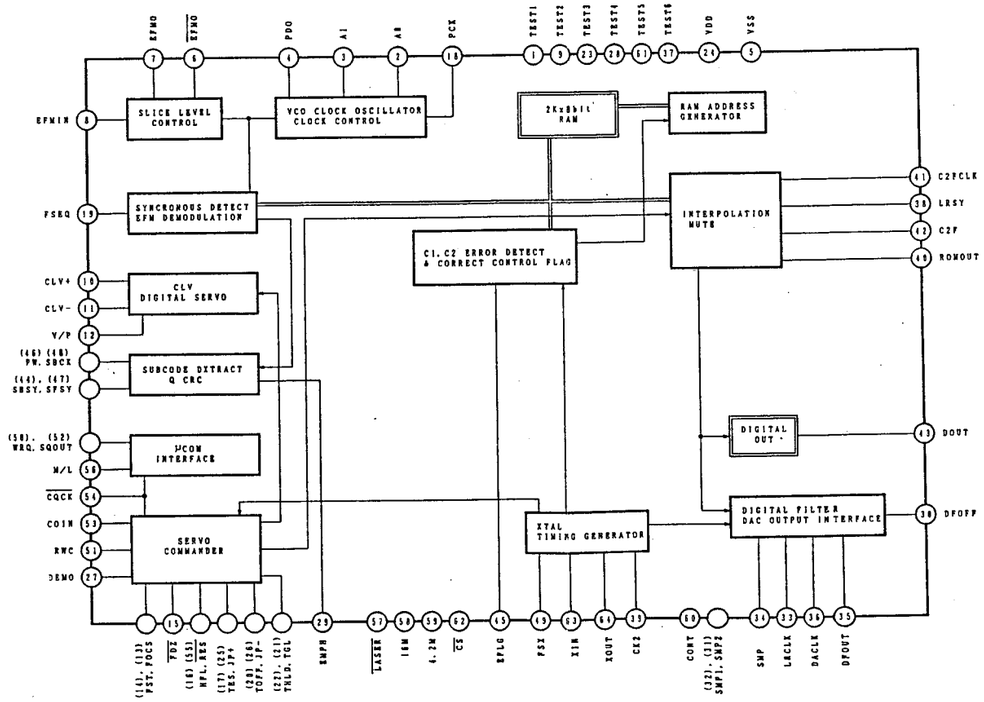
## IC BLOCK DIAGRAM & DESCRIPTION

### IC102 BA6398FP ( POWER DRIVER )




T. S. D : THERMAL SHUT DOWN  D. BUF : DRIVE BUFFER

### IC104 LC7861KE ( CD PLAYER SIGNAL & SERVO CONTROL )



## IC BLOCK DIAGRAM & DESCRIPTION

### IC104 LC7861KE ( CD PLAYER SIGNAL & SERVO CONTROL )

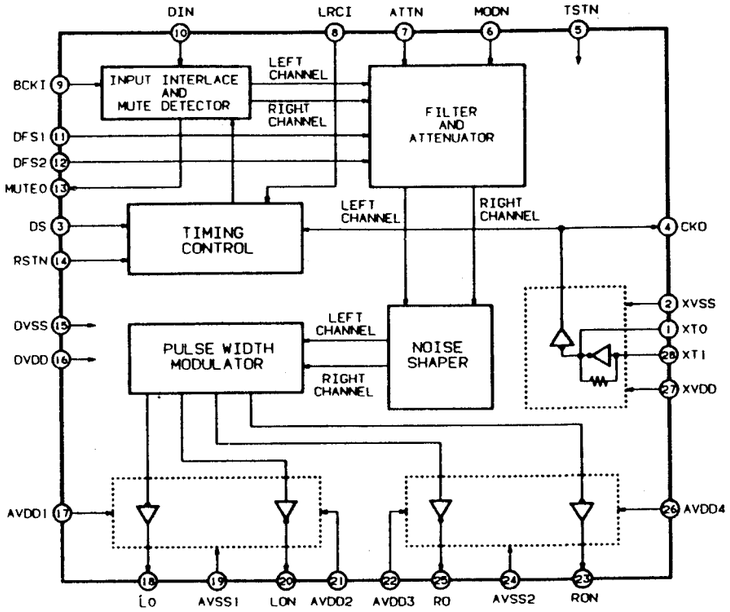
| No | PIN NAME | I/O | DESCRIPTION |
|---|---|---|---|
| 1 | TEST1 | I | For TEST. Normal time is non connection. |
| 2 | AO | O | Input from VCO output in LA9210 .(8.6436MHz) |
| 3 | AI | I | Phase comparison output of VCO and EFM |
| 4 | PDO | O | signal. |
| 5 | VSS | | GND |
| 6 | EFMO | O | Negative output through amplitude limiter. Antiphase of EFMO. This signal use SLICE LEVEL CONTROL. |
| 7 | EFMO | O | Positive output through amplitude limiter. Antiphase of EFMO. This signal use SLICE LEVEL CONTROL. |
| 8 | EFMIN | I | Inputting HF signal of 1~2$V_{P-P}$. This signal use SLICE LEVEL CONTROL. |
| 9 | TEST2 | I | For TEST. Normal time is non connection. |
| 10 | CLV+ | O | Output for DISC MOTOR CONTROL. |
| 11 | CLV- | O | Output for DISC MOTOR CONTROL. |
| 12 | V/P | O | CLV rough Servo time : Output "H" Phase control time : Output"L" |
| 13 | FOCS | O | Output "H" : Lens pull up with slowly than |
| 14 | FST | O | stop the Focus Servo. If FZD generate, it reset |
| 15 | FZD | I | output of FOCS. For lead-in of Focus |
| 16 | HFL | I | Comply with command of track jump, it oscillate kick Pulse, JP+ & JP-. It jump the prescribed number of track (1,4,16,64). |
| 17 | TES | I | Comply with command of track jump, it oscillate kick Pulse, JP+ & JP-. It jump the prescribed number of track (1,4,16,64). |
| 18 | PCK | O | PCK Monitor (4.3218MHz) |
| 19 | FSEQ | O | SYNC (FS of truth) detected from EFM signal = SYNC of counter : "H" (Latch Output during in 1 frame) |
| 20 | TOFF | O | Comply with command of track jump, it |
| 21 | TGL | O | oscillate kick Pulse, JP+ & JP-. It jump the |
| 22 | THLD | O | prescribed number of track (1,4,16,64). |
| 23 | TEST3 | I | For TEST. Normal time is non connection. |
| 24 | VDD | | +5V |
| 25 | JP+ | O | Comply with command of track jump, it |
| 26 | JP- | O | oscillate kick Pulse, JP+ & JP-. It jump the prescribed number of track (1,4,16,64). |
| 27 | DEMO | I | For adjustment of production process. Sound on function. |
| 28 | TEST4 | I | For TEST. Normal time is non connection. |
| 29 | EMPH | O | Output is "H" time, it need de-emphasis |
| 30 | DFOFF | I | ON/OFF Switching of Digital Filter. Output "H" : Filter OFF |
| 31 | SMP2 | O | Output of signal to DAC, Signal of Latch & L/ |
| 32 | SMP1 | O | R select, Signal for Sampling Hold |
| 33 | LRCLK | O | Output of signal to DAC, Signal of Latch & L/ |
| 34 | SMP | O | R select, Signal for Sampling Hold |
| 35 | DFOUT | O | Output of signal to DAC, Signal of Latch & L/ R select, Signal for Sampling Hold |
| 36 | DACLK | O | Output of signal to DAC, Signal of Latch & L/ R select, Signal for Sampling Hold |
| 37 | DFIN | O | For TEST. Normal time is non connection. |
| 38 | LRSY | O | For output of signal that Comply with CD-ROM |
| 39 | CK2 | O | For output of signal that Comply with CD-ROM |
| 40 | ROMOUT | O | For output of signal that Comply with CD-ROM |
| 41 | C2FLCK | O | For output of signal that Comply with CD-ROM |
| 42 | C2F | O | For output of signal that Comply with CD-ROM |
| 43 | DOUT | O | Output of DIGITAL OUT |
| 44 | SBSY | O | Synchronizing signal of sub-code block. |
| 45 | EFLG | O | For correction monitor of C1, C2, single, double. |
| 46 | PW | O | SFSY is Synchronizing signal of sub-code & |
| 47 | SFSY | O | frame. Clock of eighth send to SBCK then read |
| 48 | SBCK | I | out the sub-code of P, Q, R, S, T, U, V, & W. |
| 49 | FSX | O | Output of Synchronizing signal (7.35KHz) |
| 50 | WRQ | O | Data sub-code Q pass the CRC check then |
| 51 | RWC | I | WRQ do "H". It detect at external, Data read |
| 52 | SQOUT | O | out from SQOUT by send the CQCK. RWC set |
| 53 | COIN | I | the "H" by Micro Processor then it let |
| 54 | CQCK | I | command by send with Synchronizing CQCK command data. |
| 55 | RES | I | Turn on the Power Supply time : Once "L" |
| 56 | M/L | I | Data of SQOUT want at the LBS first time : M /L set the "L". |
| 57 | LASER | O | This output can control at Serial Control from Micro Processor |
| 58 | 16M | O | 16M Output (16.9344MHz) |
| 59 | 4M | O | 4M Output (4.2336MHz) |
| 60 | CONT | O | This output can control at Serial Control from Micro Processor |
| 61 | TEST5 | I | For TEST. Normal time is non connection. |
| 62 | CS | I | Chip select Terminal. This terminal "L" : LC7866NE is active (Internal Resistor : Pull Down) |
| 63 | XIN | I | Connection Terminal of crystal oscillation (16.9344MHz) |
| 64 | XOUT | O | Connection Terminal of crystal oscillation (16.9344MHz) |



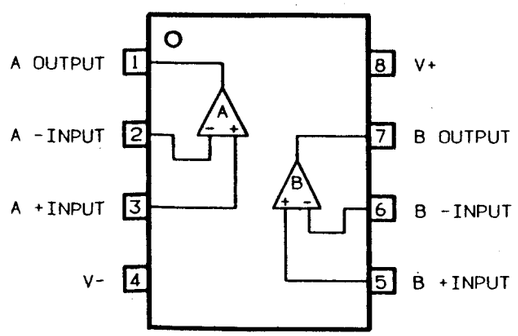
## IC BLOCK DIAGRAM & DESCRIPTION

### IC105 SM5871AS ( D/A CONVERTER )

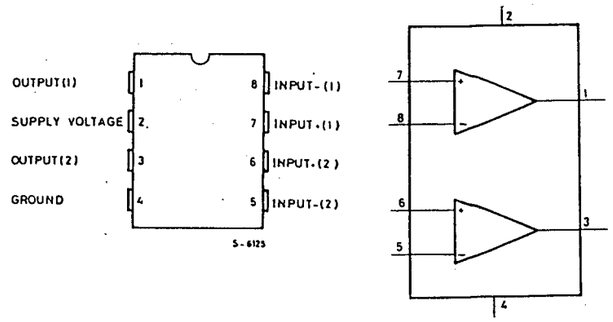
| No. | Pin Name | Description |
|---|---|---|
| 1 | XTO | Crystal Oscillator Output |
| 2 | XVSS | Clock Ground |
| 3 | DS | Normal / Double Speed Select Input |
| 4 | CKO | Clock Input |
| 5 | TSIN | Test Input |
| 6 | MODN | Mode Select Input |
| 7 | ATTN | Soft Mute Control Input |
| 8 | LRCI | Data Sample Rate Clock Input |
| 9 | BCLI | Bit Clock Input |
| 10 | DIN | Serial Data Input |
| 11 | DSF1 | De-Emphasis Select Input |
| 12 | DSF2 | De-Emphasis Select Input |
| 13 | MUTEO | Mute Detect Output |
| 14 | RSTN | Reset Input |
| 15 | DVSS | Digital Ground |
| 16 | DVDD | 5 V Digital Supply |
| 17 | AVDD1 | Analog Supply 1 |
| 18 | LO | Left-Channel Positive PWM Output |
| 19 | AVSS1 | Analog Ground 1 |
| 20 | LON | Left-Channel Negative PWM Output |
| 21 | AVDD2 | Analog Supply 2 |
| 22 | AVDD3 | Analog Supply 3 |
| 23 | RON | Right-Channel Negative PWM Output |
| 24 | AVSS2 | Analog Ground 2 |
| 25 | RO | Right-Channel Positive PWM Output |
| 26 | AVDD4 | Analog Supply 4 |
| 27 | XVDD | Clock Supply |
| 28 | XTI | Crystal Oscillator or External Clock Input |




### IC106 NJM2100 ( OP AMP. )




### IC165 TDA2822 ( PHONES AMP. )



## IC BLOCK DIAGRAM & DESCRIPTION

### IC111 CXP82432A-114Q ( MICROPROCESSOR )

| No. | PIN NAME | I/O | DESCRIPTION |
|---|---|---|---|
| 1 | WRQ | I | DSP INTERFACE |
| 2 | PHOTO | I | 60-DISC TABLE POSITION SENSOR |
| 3 | LIMIT_SW | I | PICKUP POSITION |
| 4 | IR | I | REMOTE CONTROL SIGNAL |
| 5 | C_STOP | I | CALL STOP SIGNAL |
| 6 | P_CONT | O | POWER CONTROL |
| 7 | | O | |
| 8 | M_CD- | O | LOADING MOTOR CONTROL |
| 9 | CD_AF | O | AUTO FUNCTION |
| 10 | ROM_CLK | O | EEPROM CONTROL CLOCK |
| 11 | ROM_DATA | I/O | EEPROM CONTROL DATA |
| 12 | S_CONT | O | LED SENSOR POWER (ON = "H") |
| 13 | CQCK | O | DSP CLOCK |
| 14 | SQOUT | I | DSP INTERFACE |
| 15 | COIN | O | DSP INTERFACE |
| 16 | POWER_IN | O | POWER ON / OFF |
| 17 | SYNCRO | O | |
| 18 | FUNCT | O | FUNCTION (CD = "H") |
| 19 | REC_SW | I | RESET |
| 20 | MEC0 | I | MECHANISM SWITCH |
| 21 | MEC1 | I | MECHANISM SWITCH |
| 22 | MEC2 | I | MECHANISM SWITCH |
| 23 | M_CHUCK- | O | CHUCKING MOTOR CONTROL |
| 24 | M_CHUCK + | O | CHUCKING MOTOR CONTROL |
| 25 | SENS1 | I | SENSOR SIGNAL |
| 26 | SENS2 | I | SENSOR SIGNAL |
| 27 | SENS3 | I | SENSOR SIGNAL |
| 28 | SENS4 | I | SENSOR SIGNAL |
| 29 | SENS5 | I | SENSOR SIGNAL |
| 30 | SENS6 | I | SENSOR SIGNAL |
| 31 | SENS7 | I | SENSOR SIGNAL |
| 32 | KEY0 | I | KEY SIGNAL |
| 33 | KEY1 | I | KEY SIGNAL |
| 34 | KEY2 | I | KEY SIGNAL |
| 35 | SEL0 | I | SELECTION SIGNAL |
| 36 | M_SHUT- | O | SHUTTER MOTOR CONTROL |
| 37 | M_SHUT + | O | SHUTTER MOTOR CONTROL |
| 38 | RESET | - | |
| 39 | EXTAL | - | X'TAL, 4.19MHz |
| 40 | XTAL | - | X'TAL, 4.19MHz |
| 41 | VSS | - | GND |
| 42 | | - | |
| 43 | | - | GND |
| 44 | M_TURN + | O | TURN TABLE MOTOR CONTROL |
| 45 | M_TURN- | O | TURN TABLE MOTOR CONTROL |
| 46 | AVREF | - | REFERENCE VOLTAGE, A/D CONVERTER |
| 47 | AVSS | - | GND |
| 48 | M_EJECT + | O | FRONT LOADING MOTOR CONTROL |
| 49 | M_EJECT- | O | FRONT LOADING MOTOR CONTROL |
| 50 | M_CD + | O | LOADING MOTOR CONTROL (FAST = "L") |

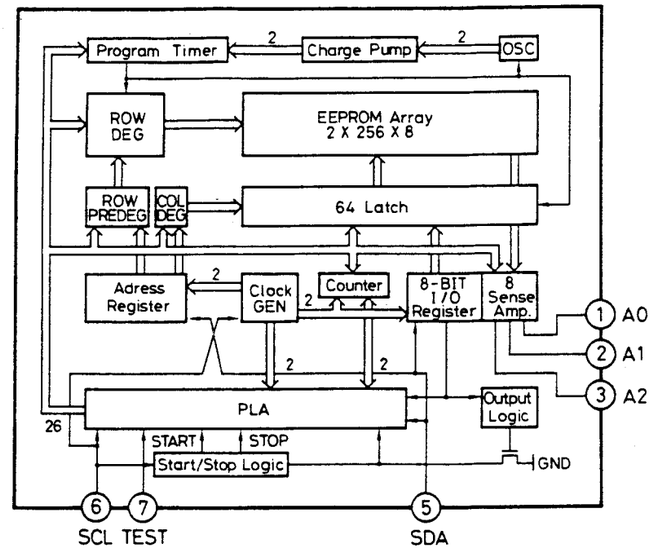
| No. | PIN NAME | I/O | DESCRIPTION |
|---|---|---|---|
| 51 | S0 | O | FL DISPLAY, SEGMENT |
| 52 | S1 | O | FL DISPLAY, SEGMENT |
| 53 | S2 | O | FL DISPLAY, SEGMENT |
| 54 | S3 | O | FL DISPLAY, SEGMENT |
| 55 | S4 | O | FL DISPLAY, SEGMENT |
| 56 | S5 | O | FL DISPLAY, SEGMENT |
| 57 | S6 | O | FL DISPLAY, SEGMENT |
| 58 | S7 | O | FL DISPLAY, SEGMENT |
| 59 | S8 | O | FL DISPLAY, SEGMENT |
| 60 | S9 | O | FL DISPLAY, SEGMENT |
| 61 | S10 | O | FL DISPLAY, SEGMENT |
| 62 | S11 | O | FL DISPLAY, SEGMENT |
| 63 | S12 | O | FL DISPLAY, SEGMENT |
| 64 | S13 | O | FL DISPLAY, SEGMENT |
| 65 | S14 | O | FL DISPLAY, SEGMENT |
| 66 | S15 | O | FL DISPLAY, SEGMENT |
| 67 | S16 | O | FL DISPLAY, SEGMENT |
| 68 | S17 | O | FL DISPLAY, SEGMENT |
| 69 | S18 | O | FL DISPLAY, SEGMENT |
| 70 | S19 | O | FL DISPLAY, SEGMENT |
| 71 | S20 | O | FL DISPLAY, SEGMENT |
| 72 | S21 | O | FL DISPLAY, SEGMENT |
| 73 | S22 | O | FL DISPLAY, SEGMENT |
| 74 | S23 | O | FL DISPLAY, SEGMENT |
| 75 | T12 | O | FL DISPLAY, DIGIT |
| 76 | T11 | O | FL DISPLAY, DIGIT |
| 77 | T10 | O | FL DISPLAY, DIGIT |
| 78 | T9 | O | FL DISPLAY, DIGIT |
| 79 | T8 | O | FL DISPLAY, DIGIT |
| 80 | T7 | O | FL DISPLAY, DIGIT |
| 81 | T6 | O | FL DISPLAY, DIGIT |
| 82 | T5 | O | FL DISPLAY, DIGIT |
| 83 | T4 | O | FL DISPLAY, DIGIT |
| 84 | T3 | O | FL DISPLAY, DIGIT |
| 85 | T2 | O | FL DISPLAY, DIGIT |
| 86 | T1 | O | FL DISPLAY, DIGIT |
| 87 | T0 | O | FL DISPLAY, DIGIT |
| 88 | VFDP | - | -30V |
| 89 | VDD | - | +5V |
| 90 | NC | - | VDD |
| 91 | VSS | - | GND |
| 92 | DSP_RES | O | DSP RESET |
| 93 | SL + | O | SLED MOTOR CONTROL |
| 94 | SL- | O | SLED MOTOR CONTROL |
| 95 | CD_MUTE | O | MUTE (ON = "H") |
| 96 | ATT | O | DAC INTERFACE, DATA |
| 97 | SHIFT | O | DAC INTERFACE, CLOCK |
| 98 | | O | |
| 99 | RWC | O | DSP INTERFACE |
| 100 | DRF | I | DRF SIGNAL |



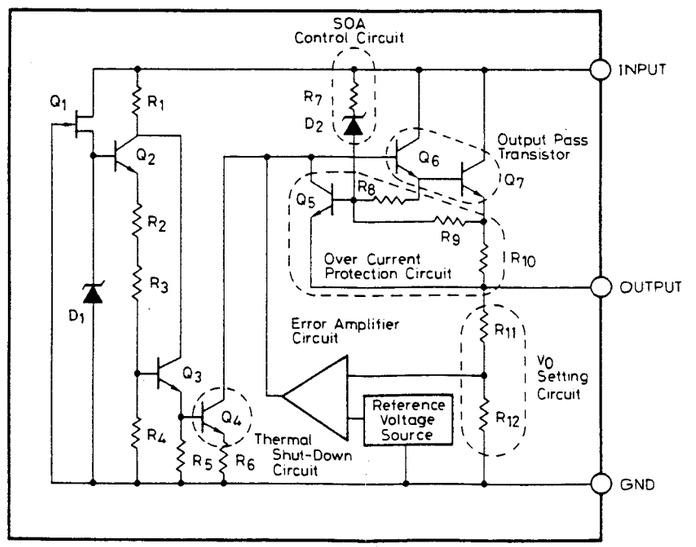
## IC BLOCK DIAGRAM & DESCRIPTION

### IC112 LE24C04S1 ( SERIAL ACCESS )

| Pins | Name |
|---|---|
| A0·A1·A2 | Address Input |
| VSS | GND |
| SDA | Serial Data |
| SCL | Serial Clock |
| TEST | Test Input |
| VCC | Power Source |




### IC151 NJM78L05A / IC161 NJM7809FA ( POWER REGULATOR )



## IC VOLTAGES

### IC101 LA9220M

( V )

| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STOP | 0 | 2.5 | 0 | 2.5 | 2.5 | 2.5 | 2.6 | 2.5 | 2.5 | 2.5 | 2.6 | 2.5 | 2.6 | 2.6 | 2.6 |
| PLAY | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.6 | 2.5 | 2.4 | 2.6 | 2.6 | 2.5 | 2.6 | 2.6 | 2.5 |
| **Pin No.** | **16** | **17** | **18** | **19** | **20** | **21** | **22** | **23** | **24** | **25** | **26** | **27** | **28** | **29** | **30** |
| STOP | 2.6 | 2.5 | 2.6 | 2.6 | 2.6 | 2.6 | 0 | 2.5 | 2.5 | 2.6 | 2.6 | 2.5 | 2.5 | 2.6 | 2.4 |
| PLAY | 2.6 | 2.5 | 2.6 | 2.5 | 2.6 | 2.6 | 0 | 2.5 | 2.5 | 2.5 | 2.6 | 2.8 | 2.5 | 2.7 | 2.4 |
| **Pin No.** | **31** | **32** | **33** | **34** | **35** | **36** | **37** | **38** | **39** | **40** | **41** | **42** | **43** | **44** | **45** |
| STOP | 2.4 | 0 | 0 | 5.0 | 5.0 | 0 | 0 | 5.0 | 0 | 0 | 1.6 | 2.4 | 2.5 | 2.5 | 0 |
| PLAY | 2.4 | 0 | 0 | 5.0 | 0 | 0.9 | 0 | 0 | 0 | 1.0 | 2.5 | 2.4 | 2.5 | 2.5 | 0 |
| **Pin No.** | **46** | **47** | **48** | **49** | **50** | **51** | **52** | **53** | **54** | **55** | **56** | **57** | **58** | **59** | **60** |
| STOP | 2.5 | 2.5 | 4.4 | 0 | 2.4 | 4.9 | 0 | 0 | 0 | 2.7 | 5.0 | 2.6 | 2.6 | 0 | 0 |
| PLAY | 2.6 | 1.8 | 4.4 | 0 | 2.4 | 4.9 | 4.8 | 0 | 4.9 | 2.7 | 5.0 | 2.6 | 2.6 | 2.7 | 2.7 |
| **Pin No.** | **61** | **62** | **63** | **64** | | | | | | | | | | | |
| STOP | 2.2 | 4.3 | 0 | 5.0 | | | | | | | | | | | |
| PLAY | 2.2 | 3.7 | 0 | 5.0 | | | | | | | | | | | |

### IC102 BA6398FP

( V )

| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STOP | 4.2 | 4.2 | 2.5 | 2.5 | 8.0 | 5.0 | 0 | 0 | 2.5 | 0 | 4.1 | 0 | 0 | 8.4 | 0 |
| PLAY | Fluc | Fluc | Fluc | 2.5 | 7.8 | 5.0 | 5.0 | 0 | 0 | 2.5 | 4.1 | 4.2 | 0 | 8.4 | 0 |
| **Pin No.** | **16** | **17** | **18** | **19** | **20** | **21** | **22** | **23** | **24** | **25** | **26** | **27** | **28** | | |
| STOP | 0 | 4.1 | 4.1 | 2.6 | 2.5 | 8.9 | 8.9 | 2.5 | 2.5 | 2.5 | 4.2 | 4.2 | 0 | | |
| PLAY | 0 | Fluc | Fluc | 0 | 2.5 | 8.9 | 8.9 | 2.5 | 2.5 | Fluc | Fluc | Fluc | 0 | | |

### IC104 LC7861K

* With Emphasis : 5 V

( V )

| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STOP | 0 | 2.3 | 2.3 | 2.7 | 0 | 2.3 | 2.3 | 2.6 | 0 | 0 | 0 | 5.0 | 0 | 2.5 | 4.2 |
| PLAY | 0 | 2.3 | 2.3 | 2.4 | 0 | 2.5 | 2.5 | 2.6 | 0 | Fluc | 0 | 0 | 0 | 2.5 | 4.2 |
| **Pin No.** | **16** | **17** | **18** | **19** | **20** | **21** | **22** | **23** | **24** | **25** | **26** | **27** | **28** | **29** | **30** |
| STOP | 4.2 | 0.5 | 1.8 | 0 | 5.0 | 5.0 | 0 | 0 | 5.0 | 0 | 0 | 0 | 0 | 0 | 5.0 |
| PLAY | 0 | 0.6 | 2.0 | 5.0 | 2.5 | 5.0 | 0 | 0 | 5.0 | 0 | 0 | 0 | 0 | 0 * | 5.0 |
| **Pin No.** | **31** | **32** | **33** | **34** | **35** | **36** | **37** | **38** | **39** | **40** | **41** | **42** | **43** | **44** | **45** |
| STOP | 1.3 | 1.3 | 2.5 | 2.5 | 0 | 2.3 | 0 | 2.5 | 2.3 | 1.8 | 2.5 | 4.6 | 2.6 | 0 | 2.3 |
| PLAY | 1.3 | 1.3 | 2.5 | 2.5 | 1.7 | 2.3 | 0 | 2.5 | 2.4 | Fluc | 2.5 | 0 | 2.7 | 0 | 0 |
| **Pin No.** | **46** | **47** | **48** | **49** | **50** | **51** | **52** | **53** | **54** | **55** | **56** | **57** | **58** | **59** | **60** |
| STOP | 0 | 2.5 | 0 | 2.5 | 0 | 0 | 0 | 0 | 5.0 | 5.0 | 0 | 5.0 | 2.3 | 2.0 | 5.0 |
| PLAY | 0 | 2.5 | 0 | 2.5 | 0 | 0 | 0 | 0 | 5.0 | 5.0 | 0 | 0 | 2.3 | 2.0 | 5.0 |
| **Pin No.** | **61** | **62** | **63** | **64** | | | | | | | | | | | |
| STOP | 0 | 0 | 2.5 | 2.5 | | | | | | | | | | | |
| PLAY | 0 | 0 | 2.5 | 2.5 | | | | | | | | | | | |

### IC105 SM5871AS

* With Emphasis : 0 V

( V )

| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STOP | 2.6 | 0 | 0 | 2.7 | 5.0 | 5.0 | 0 | 2.5 | 2.3 | 0 | 5.0 | 0 | 5.0 | 5.0 | 0 |
| PLAY | 2.6 | 0 | 0 | 2.7 | 5.0 | 5.0 | 5.0 | 2.5 | 2.3 | 1.7 | 5.0 * | 0 | 0 | 5.0 | 0 |
| **Pin No.** | **16** | **17** | **18** | **19** | **20** | **21** | **22** | **23** | **24** | **25** | **26** | **27** | **28** | | |
| STOP | 5.0 | 5.0 | 2.5 | 0 | 2.5 | 5.0 | 5.0 | 2.5 | 0 | 2.5 | 5.0 | 5.0 | 2.6 | | |
| PLAY | 5.0 | 5.0 | 2.5 | 0 | 2.5 | 5.0 | 5.0 | 2.5 | 0 | 2.5 | 5.0 | 5.0 | 2.6 | | |

### IC106 NJM2100

( V )

| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| STOP / PLAY | 2.5 | 2.5 | 2.5 | 0 | 2.5 | 2.5 | 2.5 | 5.0 |

Fluc : Fluctuation



## IC VOLTAGES

### IC111 CXP82432-114

( V )

| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STOP | 0 | 0 | 5.0 | 5.0 | 0 | 5.0 | 0 | 4.9 | 0 | 5.0 | 5.0 | 0 | 5.0 | 0 | 0 |
| PLAY | Fluc | 0 | 5.0 | 5.0 | 0 | 4.9 | 0 | 4.9 | 0 | 0 | 5.0 | 0 | 0 | 0 | 4.8 |
| **Pin No.** | **16** | **17** | **18** | **19** | **20** | **21** | **22** | **23** | **24** | **25** | **26** | **27** | **28** | **29** | **30** |
| STOP | 4.3 | 0 | 0 | 0 | 0 | 2.0 | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 0 |
| PLAY | 1.0 | 0 | 0 | 0 | 2.5 | 2.3 | 2.0 | 4.8 | 4.8 | 2.4 | 2.5 | 2.7 | 2.8 | 2.3 | 0 |
| **Pin No.** | **31** | **32** | **33** | **34** | **35** | **36** | **37** | **38** | **39** | **40** | **41** | **42** | **43** | **44** | **45** |
| STOP | 2.3 | 5.0 | 5.0 | 5.0 | 0 | 4.8 | 4.8 | 5.0 | 0 | 2.6 | 0 | 5.0 | 0 | 5.0 | 5.0 |
| PLAY | 0 | 5.0 | 5.0 | 5.0 | 0 | 4.8 | 4.8 | 5.0 | 2.7 | 2.6 | 0 | 5.0 | 0 | 3.0 | 4.0 |
| **Pin No.** | **46** | **47** | **48** | **49** | **50** | **51** | **52** | **53** | **54** | **55** | **56** | **57** | **58** | **59** | **60** |
| STOP | 5.0 | 0 | 5.0 | 5.0 | 0 | -17 | -2.5 | -24 | -25 | -30 | -29 | -29 | -29 | -10 | -18 |
| PLAY | 5.0 | 0 | 3.6 | 5.0 | 3.2 | Fluc | 0 | 0 | -27 | -27 | -33 | -33 | -33 | -19 | -23 |
| **Pin No.** | **61** | **62** | **63** | **64** | **65** | **66** | **67** | **68** | **69** | **70** | **71** | **72** | **73** | **74** | **75** |
| STOP | -20 | -13 | -18 | -28 | -28 | 0 | -14 | -15 | -23 | -26 | -27 | -32 | -32 | -32 | -28 |
| PLAY | -19 | -23 | -14 | -27 | -33 | 0 | -33 | -11 | Fluc | -27 | 0 | -32 | 0 | 0 | 0 |
| **Pin No.** | **76** | **77** | **78** | **79** | **80** | **81** | **82** | **83** | **84** | **85** | **86** | **87** | **88** | **89** | **90** |
| STOP | -28 | -28 | -28 | -28 | -28 | -27 | Fluc | 0 | -27 | -28 | -28 | -28 | -33 | 5.0 | 0 |
| PLAY | -26 | Fluc | -26 | Fluc | 0 | Fluc | -26 | -26 | -25 | -26 | -25 | -7.6 | -33 | -8.0 | -9.0 |
| **Pin No.** | **91** | **92** | **93** | **94** | **95** | **96** | **97** | **98** | **99** | **100** | | | | | |
| STOP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| PLAY | 0 | 5.0 | 0 | 0 | -10 | -9.0 | -10 | -9.0 | 0 | 0 | | | | | |

### IC112 LE24C16

( V )

| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| STOP / PLAY | 0 | 0 | 0 | 0 | 5.0 | 5.0 | 0 | 5.0 |

### IC181 LB1648

( V )

| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STOP / PLAY | 9.0 | 5.0 | 0.5 | 0.5 | 5.0 | 2.8 | 9.0 | 5.0 | 0.5 | 0.5 | 5.0 | 3.0 |

### IC182 LB1648

( V )

| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STOP / PLAY | 9.0 | 0 | 0 | 0.5 | 5.0 | 2.1 | 9.0 | 5.0 | 0.5 | 0 | 0 | 3.0 |

### IC183 LB1648

( V )

| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STOP / PLAY | 9.0 | 5.0 | 0.5 | 0 | 0 | 0 | 9.0 | 0 | 0 | 0 | 0 | 3.0 |

### IC194 ML74HC14A

( V )

| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STOP / PLAY | 5.0 | 0 | 5.0 | 0 | 5.0 | 0 | 0 | 0 | 5.0 | 0 | 5.0 | 0 | 5.0 | 5.0 |

### IC185 ML74HC14A

( V )

| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STOP / PLAY | 0 | 5.0 | 0 | 5.0 | 0 | 5.0 | 0 | 5.0 | 0 | 0 | 5.0 | 5.0 | 0 | 5.0 |

Fluc : Fluctuation

FISHER



May/'95/1300 KM Printed in Japan.